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Trends and Opportunities: Catching the Curve

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I was recently asked to present my sense of what the trends are in Health Informatics. Others were speaking on industry trends (for example how many will buy which application when), so I decided to talk about “conceptual trends”, and to interpret how leadership institutions and vendors might tool up to “ride the trend”.

I consider “conceptual trends” to be where the thought leaders see us going. To me, conceptual trends are the trends that developers/vendors will have to catch up to if they are to acquire or retain leadership. Some conceptual trends are also answers to dealing with a saturated market for some applications...where everyone has one and vendors must push out incumbents to get their systems in.

The overall message is that leadership organizations will field comprehensive services and quality products, but actually be in the business of delivering effective, manageable organizations.

Conceptual Trend 1: Mass grasping at the EHR.

It seems when we come to the electronic health record that everybody's developing one. I believe, though that few will get it right. Meanwhile, we will have more heat than light. The breakthrough will be when developers realize that there are many “views” of the EHR, and that defining these views can only be done by defining the types of users of the EHR and the uses they need to make of it. Furthermore, these users themselves must be on the development team. *Leadership organizations will first develop or define a rational methodology and then apply it to defining a useful EHR.*

Conceptual Trend 2: Recognizing importance of non-IT “co-factors” in IT success, and moving from “system implementation” to “workplace implementation”.

By co-factors I mean interventions such as re-engineering, human-computer tight coupling, staff mobilization, motivation, and involvement, staff education and training, organizational change, management of change, and the like. To understand this trend, visualize a Diagnostic Imaging department full of people, systems, processes, etc. The classic approach (I think of it as “IT as pill”): add a system to the existing environment. However, the new conceptual approach will be to (conceptually) empty the department, implement the new department (new systems, role changes, new workflow, different instruments, restructured organization, evaluation mechanism), and plug the “new” department in. This is more like a lifestyle change than the “take a pill” mindset. *Leadership organizations will develop and use comprehensive industrial-strength implementation processes that incorporate all of these co-factors.*

Conceptual Trend 3: Vendors will move to “total services” to support “workplace implementation”.

Vendors are beginning to focus on services and to consider products as enablers and advantages. This thinking will become commonplace. Vendors will move from selling systems to (conceptually) selling “departments”. They will create comprehensive professional services, and build new implementation teams that include qualified Health Informaticians and other professionals with social sciences, industrial psychology, economics, organizational change, educational and other special expertise supplementing their technical experts. *Leadership organizations will field a comprehensive implementation team and process.*

Conceptual Trend 4: Upping the ante, the application of radical investment strategies.

Currently health organizations are significantly under-investing compared to other knowledge industry organizations. Somehow it seems we need to more than double our investment in IT if we are to see its true benefits. To do that we are going to have to see the real evidence of the value of systems in terms of health system productivity. This means that credible studies must be done and the evidence must be developed. *Leadership organizations will undertake trials of IT or foster such and IT solutions will become evidence-based solutions. Another implication is that vendors will need to go “at risk” as participants in implementations.*

Conceptual Trend 5: There will be significant change in the corporate research and development shop.

This will parallel the changes we have cited above. One move will be towards rapid technology transfer, trying to far more quickly move ideas from the bench to bedside. Another will be more trans-disciplinary teams that are able to address the co-factors. This will be necessary if challenges like the EHR are to be addressed. *Leadership organizations will form partnerships with universities to accomplish this.*

Conceptual Trend 6: There will be deep involvement of providers in solution development and deployment.

We will see more and more physicians and other healthcare professionals cross-trained in Health Informatics as CIOs, and other leaders. Erica Drazen (now at First Consulting Group) once said, “Wait till the resisters become insisters”. Well, they have! This means that vendors will be more and more seeing clinicians as purchasing decision-makers. *Leadership organizations will have physicians and other healthcare professional on their development and deployment teams.*

**Conceptual Trend 7:
There will be significant change in IS team.**

Healthcare providers will be both in the central IS department and diffused throughout the organization. There will also be an amalgamation of the classic information services organization with re-engineering and change management groups. IS will diffuse into all departments, moving from being central to being distributed. *Leadership organizations will embrace this change, and vendors will have to learn how to sell wider and higher.*

**Conceptual Trend 8:
There will be a change in the meaning of "IT".**

More and more of our IT will be embedded in instruments and devices, and IT will become ubiquitous and unobtrusive. We also will see the gradual "submergence" of IT, as it disappears from plain sight into instruments and devices. Our information systems will become data and information collators, managers, repositories, and co-ordinators. *Leadership vendors will form partnerships with devices vendors, embedding their systems in the instruments, the Diagnostic Imaging suites, etc. Leadership institutions will purchase more of their IT as components of instruments, imaging suites, and the like.*

**Conceptual Trend 9:
We will move towards unobtrusive interfaces.**

We will begin to see truly adaptive workstations and systems, many using speech recognition. User-aware and context-aware interactive systems will be developed and deployed, and we will move towards tight, flexible system-human workflow coupling. In the case of decision support, we will see "thought-flow" coupling, systems that "co-think" with us. *Leadership organizations will be deeply involved in Human Computer Interface research and development, and system usability testing will be mainstream.*

**Conceptual Trend 10:
Introducing and integrating genomics and proteomics into healthcare.**

The effect on the laboratory will be dramatic. We will move towards genetic testing in our efforts to better use antibiotics, to avoid medication side effects, and to determine susceptibilities. We will see genetic registries and "wellness management" (similar to disease management) for those with genetic predispositions to disorders. *Leadership organizations will integrate genomic and proteomic data and into systems and the EHR, and create new offerings. Expertise in these areas will become essential for systems developers.*

**Conceptual Trend 11:
Increasing use of collaboration-support systems.**

We will find ourselves in the era of virtual teams and projects. Virtual vendor-client interaction and exchange will be supported from day 1 of the sales cycle. This will reduce the need for and cost of travel, increase intensity the intensity of interactions, with more exchanged in a shorter time, and no rest on the plane while in transit. *Leadership organizations will invest in and use virtual collaboration technologies and remotely actuated.*

**Conceptual Trend 12:
Competence will reign.**

We are already seeing increased recognition of the need for competent Health Informaticians. This is leading to a growing demand for formal education and training programs based on defined bodies of knowledge and skills. Certification is rearing its head, and certification-oriented programs with discrete curricula will pop up everywhere. *Leadership organizations will seek true professionals in Health Informatics, and educators will develop curricula that are based on real needs not the educators' preferences.*

These are the major conceptual trends I came up with...now it's your turn. I'll recognize your contributions in a future column.



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