Condemned to Repeat History: Lessons I'm Still Learning

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ABSTRACT

It sometimes seems like the trials and tribulations (and, once in a while, triumphs) we face in our jobs are a direct result of change. And while a new worm, a new version of an operating system, a new demand for us to provide some service that we've never provided before, continue to challenge us. However, even in the face of these changes, I think there are some principles that have remained relatively constant over the past decade or so.

- We are still service providers, responsible to the consumers in our campus communities for meeting their needs appropriately.
- We still have a teaching role to fill. Again, what we need to teach might have changed. (Or maybe not?) There is still an important niche for us as educators on our campuses.
- We still have to strike a balance: do we exercise complete control, or do we allow complete autonomy? Each of our organizations has to find its proper location on that spectrum.

In my presentation, I will illustrate each of these points with examples from the past and present, and I hope my listeners will be encouraged to contribute some of their own examples (or counterexamples) during the discussion period. Hopefully, by thinking a little bit about our history, we will not be condemned to re-learn old lessons.

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1. INTRODUCTION

As professionals in the field of information technology, we are used to dealing with very fast rates of change in technology. I know, for example, in one position I held, we were hard pressed to complete the transition of our dialup modem pool from 9600 baud to 14.4K, before our campus population began clamoring for 28.8 service. The same problem continues today, ten years later, as we have barely finished the rollout of 802.11b wireless networking when 802.11g comes along.

In all the daily challenges of keeping things running, it is easy to forget that some things do not change. We forget that we really have had (at least in some respects) some stability in our environments. I will discuss the areas of service, teaching, and centralization, which I feel particularly exemplify aspects of IT functions that have remained the same. I will attempt to put them in a historical context so that we may all be encouraged to think not just about the crisis *du jour*, but also about our more enduring core values.

2. PROVIDING HIGH-QUALITY SERVICES TO OUR COMMUNITIES

Providing a high level of customer service is a continual challenge to any IT organization. Even though the actual services delivered, technology, institutional requirements, and fashion change, the need for IT organizations to identify and provide those services most needed by our institutions continues. Our over-arching goal remains to satisfy the consumers of our services.

The terminology of "customer service" as applied to "internal customers" may seem somewhat new. But if we look back, we will see that the same ideals were applied in the past even if the terminology was different. As an example from my own past, in 1992, the first Help Desk was started at the institution where I worked. It was a response to an expanded need for all members of the campus community—students, faculty, and staff—to receive help in using their individual computers, in contrast to a prior model which saw our role as primarily providing central timesharing systems and, to a lesser extent, microcomputer labs. We may not have talked about "customers," but we were indeed practicing customer service as we saw the needs of our community changing.

If we look back in the annals of SIGUCCS, we can see that such questions crop up frequently in presentations. The following quote from 1992 is typical:

> . . . we had to decide on answers to the following questions: What do we support? Who in [Information & Computing Services] will provide that support, and how? When do we provide that support? Once we decided on these answers, we had to communicate them to our customers so that they would understand what they could expect from us.[1]

is typical. Twelve years later, we are all still asking these questions and, while we may have found solutions for right now, we will continue developing new answers even as the specific services and technologies involved change.

The level of service we are expected to provide continues to grow. Email is an excellent example. When I was an undergraduate student in the mid 1980s, email access was anything but universal; only those students who were enrolled in classes which used the VAX or who were employed by the Academic Computing Center had access to email. Of those students, only a small number actually made use of email. By perhaps the early 1990s, most institutions of higher education (IHEs) were at least considering the idea that email should be provided as a universal service on their campuses. Now, we might be said to be in an age of "post-universal" email, where our community members often come to us with more than one existing email account and sometimes aren't interested in using another one supplied by us.

So, although techniques have changed over the years (web-based training, for example, allows us to do training in ways we could not have done, or at least not have done easily, 15 or even ten years ago), we are still trying to figure out the needs of our communities and responding as best we can given our resources. (It almost goes without saying that these increased services are not generally accompanied by increased budgeting or staffing; indeed, actual reductions are often the case.[5]) And, unlike projects of the past, many of the things we deal with today are what might be called "interdisciplinary" undertakings: they are not performed solely by the IT organization, but involve various different cross-functional areas of the institution.

An excellent current example of this at my campus is an electronic calendaring system for scheduling campus events, services, and resources. At first glance, there is no obvious reason for IT to be involved in such an undertaking. The facilities management office, public relations and communications, catering, and student services are, at first glance, far more significant stakeholders than IT, which has an obvious implementation role in the process but not an administrative part to play in managing the use of such a calendar.

As it turns out, the very presence of the diverse community brings IT to the table to act as a facilitator between the various needs of different departments and the services available from vendors. As individual departments take ownership of their own areas of responsibility, IT does not have a large role in the final implementation and use of the product. However, we do have a very significant role at the early stage of defining needs and communicating to our community what is feasible and what is not, which features can be provided easily and which will require more significant outlay of resources.

3. TEACHING OUR COMMUNITIES

As employees of educational institutions, we understand that our employers have missions that involve teaching. These missions are most visibly carried out by faculty members in their instruction of students who enroll at colleges and universities. However, I would argue that our IT organizations also have a teaching role to play. In fact, it is a role with two aspects: that of teaching the students (although generally not in ways that are a formal part of the official curriculum) and that of teaching the institution.

At many IHEs, the "nuts and bolts" of computer usage are not included in the formal curriculum. Computers may be used as ancillary components of instruction in various courses (traditionally the hard sciences, but increasingly social sciences and humanities as well), but actual training in the use of computers is often something professors are not interested in spending classroom time on. Even in the computer science curriculum, it is often assumed that students know their way around a computer enough to perform basic tasks such as word processing, email, etc.

It thus often falls to the campus IT organization to provide such instruction. Clearly the popularity and availability of computing in society in general is much higher now than it was ten years ago, to the extent that at this point we do not expect that we will be dealing with incoming students who must be shown how to use a mouse. Even so, there will always be individual cases where remedial help is needed. As late as 2001, a student on my campus responded to a professor's use of a web-based discussion forum by saying, "I haven't used a computer yet, and I'm not going to start now."

Beyond any teaching of computer skills to individuals, IT organizations generally have a larger teaching role. Teaching the institution about IT takes many forms. For example, in the mid 1990s, the Academic Computing Center where I worked took the lead in pitching the institutional advantages of what was known in the jargon of the day as a Campus-Wide Information System. The immediate result was only as a mixed success; however, it laid the foundation for other initiatives, in particular the World-Wide Web. When it was time to begin considering how we would use the web, which evolved into a much higher-profile service with many more implications beyond the bounds of our campus, the community had already at least been exposed to the idea of supplying information to different constituencies *via* the network.

Teachable moments have become much more interesting and/or problematic for us, as many of the interesting things that happen come to us from the outside. To illustrate this change, we might compare older communications systems, for example, electronic mail, Internet Relay Chat, and Usenet, with newer phenomena, such as instant messaging and blogs. The older techniques of networked communication were to a great extent developed within the halls of academe. The blog and instant messaging came into being mostly out in the realm of commercial services, and we in the academic IT establishment are playing more of a reactive role to such developments. Ironically, it is usually the IT

organization that is looked to to provide a model for other parts of the institution in dealing with such new technologies.

4. CONTROLLING OUR COMMUNITIES (OR NOT)

Another evergreen concern for higher education IT organizations is that of central control. In many ways the increasing popularity of the PC[1] in the 1980s was because it was indeed a "personal computer"—an individual computer that could be used for the individual's purposes, as opposed to the central control exerted by the "computer center" which was in charge of some sort of central time-sharing system.

Of course, as the PC's popularity increased and even eclipsed that of "big iron" in many situations, the disadvantages of having a bunch of independent computers sitting around became obvious—or at least, obvious to those of us in IT. New versions of any software would have to be installed on every computer—and that was primarily application software; in these relatively innocent days, viruses were a minor annoyance and not the top-burner issue they are today. As a result, the pendulum began to swing back toward more central management of the "personal" computers. The PCs were connected to a network, which had obvious utility for sharing files and printers. But the networking also enabled more central control of the computers.

By 1987, the university where I received my undergraduate degree was using a completely network-centric model in its public computer labs. Students entering the lab would be issued a floppy disk which would boot MS-DOS, load Novell Netware drivers, and map appropriate network drives. From that point on, all applications would be accessed off those shared drives. The PCs were identical units with no hard drives; because there was no software to be installed on the lab machines, repair and maintenance were greatly simplified. Although I do not recall ever hearing it referred to as such at the time, this sounds a lot like today's thin client implementations. One obvious point which should be emphasized is that this arrangement was in place only in the student labs; it was not used in faculty and staff offices.

Even in situations where workstations were not completely diskless, there was more interest in utilities which enabled greater "remote control" of computers, whether for installation of software, remote troubleshooting, or simple asset inventory. These efforts were met with mixed receptions by the communities. Much depends on the culture of an individual campus. For example, a recent discussion on the Educause CIO constituent mailing list concerning implementation of Novell Zenworks[2] showed a wide range of tolerance for such central control at different colleges and universities.

Beyond the issue of centralization of control over hardware is the actual centralization of IT services. This is an area about which it is extremely difficult to generalize, since much depends on the nature and size of an institution. An institution in the Doctoral/Research Carnegie Classification almost has to have some form of decentralized IT, whereas a small Baccalaureate – Liberal Arts college[3] may be of a size and cohesiveness to allow a high degree of centralization.

In whatever context, I believe there is also a pendulum effect at work with respect to decentralization of IT services. Whatever IT support services are in place will tend to come under pressure for some kind of decentralization. For example, an academic department might receive grant money to fund a computer lab for use by its students. In many cases such arrangements leave IT with little say in how the lab is run, but a lot of responsibility for implementing and maintaining the lab. Usually the situation is not quite so bleak from the IT side of the fence, and sometimes there is even funding to staff such facilities. But the staff positions paid for with such monies are generally not accountable to IT. Eventually, people may discover that running their own IT support is not as efficient as they had originally thought, and may want the central IT organization to take the facility or service back in. Kathleen Cummings of Tufts University summarized this give-and-take succinctly:

> The centralized model seemed to produce charges that the IT organization was not responsive to local needs; alternately, the decentralized model produced redundancies and inefficiencies.[4]

We currently seem to be in a phase of consolidation and centralization, at least at the institutional level, as it becomes more popular to have a Chief Information Officer (CIO) or some other executive at the vice-presidential level who has responsibility for all IT operations (and, in some cases, the library as well). However, IT implementation at the "street level" is becoming a more distributed enterprise on our campuses as the commoditization of computers, networking equipment, and services enables individual campus organizations to roll their own IT services on an *ad hoc* basis.

5. CONCLUSION

At the time I was preparing to leave a previous position for a new employment opportunity, I was discussing my upcoming change with a friend from the faculty, and I said something to the effect that "I've been here long enough. I'm doing the same things over and over, dealing with the same issues year after year." My friend was taken aback and asked me how I could say that, when so many things had changed—and she pointed out many of the technological developments that had come (and, in some cases, gone) during my tenure there. Because she was not exposed to the broader view of providing IT services, it was surprising to her that I could feel I was doing the "same ol', same ol'."

My response could have been the basis for this paper. Although it was certainly true that we had seen many surface changes over the years, there was a core value of issues and challenges that we in IT had to address in order to enable our constituents to take advantage of those developments and make the best use of them. I have found in succeeding years that it is helpful for me to stop periodically and reflect not upon what has changed, but upon what has *not* changed. I hope that this brief consideration of some such issues that have been most important to me will spur readers to think about their own enduring challenges that remain constant even as today's new technology replaces yesterday's new technology.

[1] I use the abbreviation generically to mean a personal computer, and do not intend to exclude the Macintosh or any other particular varieties of computer.

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