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Pegasus, PONI and the iPad: a Thirty Year Strategic Alliance Creates an Environment for Technical Innovation and Enhanced Academic Support at Southern Methodist University.

Abstract: Southern Methodist University's libraries and central IT staff have been working hand in hand for more than 30 years to provide high quality information technology tools in support of the University's academic mission. The technology might change, the players might change, but the commitment of these two units goes above and beyond to serve University goals. Not intended to document every technological change on campus, this article focuses on the various stages in this fruitful relationship, and explores the organizational, cultural and environmental factors that have sustained this strategic alliance and fostered its growth over the years.

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The Southern Methodist University (SMU) Libraries and the campus Office of Information Technology (OIT) have a 30 year history of working together to provide high quality information technology tools in support of SMU's academic mission. The most recent chapter in this partnership (the summer of 2011) has resulted in the relocation of the OIT Help Desk to the main library, the absorption of academic computing support staff into the library's Information Commons, a jointly staffed reference desk, the creation of a Touch Learning Center (TLC) in the library serving both faculty and students, and (with the office of Research and Graduate Studies), the creation of a fledgling campus-wide digital repository. This partnership (essentially with the Central University Libraries [CUL] which comprises six out of the nine libraries on campus) goes from strength to strength, and it is worthwhile going back to the 1980s to look at the beginnings of the relationship and the various phases along the way. It is also worthwhile taking a look at the various trends and models that emerged nationally through these years as libraries and academic computing services - and their concomitant organizational structures - have evolved, and to try and tease out the underlying reasons for this successful partnership.

The 1980s was a time when libraries really began to see the use of technology as an empowering tool, first for backroom processes, and then to enhance information retrieval for their user base (Seiden and Kathman, 2000.) The early Library Information Systems (LIS) were designed initially to assist technical services staff to add their institutional holdings' symbols to cataloging utilities such as OCLC and RLIN, and to manage their backroom materials processing functions (Moran, 1995.) A variety of turnkey systems evolved to combine brief author/title/call number information with circulation status. The next wave of LIS were developed to put the card catalog online, and required much larger, more expensive systems to run them - which is when library systems staff began to reach out to campus IT staff. Who was going to support the system? Where would it reside? Who would pay for it? Who was ultimately responsible for determining configuration/set up/functionality? These nascent partnerships led to a wider discussion nationally on the benefits of merged or aligned libraries and computing centers (Neff, 1985.) In 1988, the Association of College and Research Libraries division of the American Library Association created a Task Force on Libraries and Computing Centers to explore this issue. The ensuing report included interviews with staff at several institutions that were engaged in creating, or already had, some form of merged organizational structure/service array (Boss et al., 1988).

At SMU meanwhile, traditional organizational structures and patterns prevailed. The University had undergone a multi-year \$5.7M process in the mid-nineties to upgrade academic and administrative computing, known as Project Pegasus (Pastine, 1996.) The Business Information Center was opened in the Business School to create a technology-rich support hub for those students, its director reporting to the Associate Dean. The Director of Administrative Computing was upgraded to Associate Vice President for Information Technology Services (ITS) with academic computing duties subsumed. The Libraries were using NOTIS as their LIS, and in 2000 upgraded to the Voyager system, naming the online catalog PONI – **P**ublic **O**nline **I**nformation, with a nod to the Mustangs’ mascot (a black Shetland pony named Peruna) and team soubriquet (Ponies). The advent of the internet had brought ITS and the libraries much closer, with the library web site the most accessed site on campus. The ITS AVP served on the Council of Library Directors and a number of technology groups were created (both ad hoc and standing committees) to work on functionality and maintenance. The Libraries became a leader in information technology on campus, creating grassroots focus groups to brainstorm new ideas among faculty and staff, and jump-starting early digitization projects. Almost all the individual Schools had separate computing support staffs and two even had separate internet domains. When the new CUL Dean arrived in 1998, one of her first tasks was to develop a way to provide access to library resources from these multiple domains. The eventual solution was to create a separate domain for electronic resources to which all the Schools could point.

The first five years of the new millennium was a period of turbulence and churn, with progress being measured in fits and starts. CUL was engaged in a variety of space planning initiatives for a major renovation of its largest library, the Fondren Library Center, a space of approximately 268,000 sq.ft. The intent was to incorporate some of the remaining non-library residents in ways that would bring synergy to all operations, reduce overlap, provide staffing efficiencies, and create one place where faculty and students could go to get their information and technology needs met. These residents included the Center for Teaching Excellence (CTE), which did not have a technological mission, academic computing labs and operations, and media support units. In between these space planning initiatives, to keep up the partnership and general momentum, a group called the Strategic Alliance was formed. This was facilitated by the CUL Dean, and included the AVP for ITS, a newly hired director of academic computing, the Associate Provost with responsibility for libraries (although the Dean reported directly to the Provost), the CTE Director, and various key library staff in charge of systems, public services, information literacy, and media and instructional technology. The group proceeded to meet in informal, relaxed settings about twice a year, looked at ways to create new opportunities for partnerships, and along the way developed a long-standing relationship of trust and confidence in each other. Clearly, a variety of university cultures and units were represented around the table – faculty, administration, libraries, computing, public services, CTE, and so on. These blue sky sessions, usually with a theme or objective – even a long term goal - for each meeting, were instrumental in forging the long-lasting bonds that we see today, although almost all the original members are no longer on campus or fulfilling the same role.

In 2006, the current AVP for ITS retired and the University took the opportunity to rethink the organizational structure of its computing services. Looking to become leaner and more efficient, the university combined the Budgets and ITS (BITS) responsibilities under a single AVP. This model had two

IT Executive Directors reporting to the BITS AVP; the Executive Director of Academic Computing and the Executive Director of Administrative Computing. In October 2008, after some additional organizational changes, a new position of CIO was created with a mandate to unify the distributed academic and administrative technology support functions as well as continue to strengthen the university's technology infrastructure. The Academic and Administrative Executive Director positions were eliminated and those responsibilities were blended into the existing OIT Director structure. This new CIO role was filled by a skilled technologist/mediator, who had originally joined the University to lead the transition to PeopleSoft in late 1998, Joe Gargiulo. Arriving within a few months of the current Dean of Central University Libraries, the two had already developed a good working relationship and mutually reciprocal agendas. At the same time, the University developed a number of initiatives designed to centralize more computing support functions and reduce the variety of systems/domains that proliferated and needed to be supported. The new computing unit was renamed Office of Information Technology (OIT).

One of the first partnerships that CUL and OIT worked on under the new leadership team was a plan for joint technical support of the Libraries' Information Commons (originally created in 2003 in the main library reference/periodicals area, once current periodicals had been relocated and the reference collections had been substantially weeded.) Although this plan had been in the works for some time, a number of cultural and budgetary issues had prevented the seamless integration of a technical support group of OIT students into the reference department to handle the various technology and hardware needs in the computer-filled area. Issues of supervision, performance expectations, responsibility, turf, culture, all had to be worked through. Initially, both groups of professionals on the front lines were suspicious and wary. The library staff had been working hard to take back space occupied by non-library units and were not anxious to relinquish hard fought gains. OIT staff were challenged with budget constraints that impacted their ability to provide adequate student staffing levels. This in turn affected their ability to provide appropriate service and was exacerbated by the library's extended hours. As part of this scenario, the Academic Technology Services (formerly Academic Computing) staff were moved into office space in the Information Commons in order to create a stronger presence and help integrate with library support teams to develop a stronger joint support initiative.

Another thorny issue that needed to be resolved was a reassessment of the mission of the Norwick Center for Media and Instructional Technology (NCMIT). This unit reported to the CUL Dean (and was considered a separate 'library' because of its media holdings), but was primarily responsible for supporting teaching technology – originally audio visual services - such as the circulation of video materials, equipment and slide projectors. Was this really the role of the Library, or could these functions be more appropriately handled by OIT? NCMIT also contained a small entrepreneurial unit that had, de facto, become one of the most innovative technology groups on campus, developing ways to stream content and create high level media support systems in new academic buildings. The unit also provided technical support for most major public events on campus. The changing technology, with the clear direction being a move to digital formats, and a decline in outdated teaching technology equipment requests (such as slide projectors), led OIT and the Libraries to agree on a change in emphasis for this unit. NCMIT relinquished teaching technology and event support, merged media

circulation into the main library, and refocused its most entrepreneurial staff to developing digital support services for the Library. Again, the transition was not seamless – faculty develop personal relationships with the staff who support their technology needs – but various other high level changes in the Schools encouraged this transition. The change also paved the way for the NCMIT to morph into the Norwick Center for Digital Services (nCDS) and become the backbone and driving force behind the library's digitization efforts, reporting to Library Systems. The subsuming of the Libraries' most innovative staff into a larger CUL unit also played a role in creating the cultural shift for which the Dean was looking. Most immediately, the Center was able to develop a plan for a Student Multimedia Center, which created a discrete lab in the Information Commons crammed with high level Macs that were loaded with presentation software and media packages, such as Final Cut Pro, and housed in space designed to allow students to practice their group presentations. The Multimedia Center was opened in 2007 in the Information Commons space formerly housing Academic Computing, which had moved into the old CMIT space and assumed the remaining teaching technology support functions. That year, nCDS also initiated its first digital collections project, partnering with Southwestern University in Georgetown, TX, to digitize the media files of Senator John Tower, an alumnus of both institutions. Southwestern had the collection; SMU had the equipment and the expertise.

While the issues of mission and how to provide adequate technical support were being worked through in public services and the NCMIT, the libraries were also looking to enhance their Voyager ILS to bring it more in line with user expectations for a Google-like search interface. This project developed into a close partnership with OIT staff and in April 2010, a new discovery layer – Summon™ from Serials Solution – was added to the catalog – and PONI was left in the dust! Users now had a choice when searching the online catalog – they could use the Discover catalog which, through natural language searching, provided access to individual electronic articles and other resources as well as print materials, or they could use the classic library catalog interface, reflecting the conventional searching mode for accessing library holdings.

In the meantime, other changes were happening in CUL that were to affect and enhance the OIT/CUL partnership. The most recent strategic planning process had focused management's attention on the Libraries' organization chart and the need for restructuring. The retirement of the Deputy Director allowed the Dean to merge the functions of public services and collection development into a new division – Scholarly Resources and Research Services - and to hire a dynamic new Assistant Dean to lead the newly created division. To balance this move, the Technical Services and Library Systems divisions were merged (nCDS was now part of Library Systems as well) under the leadership of the director for library information technology and digital initiatives, and renamed Technology Services. At the same time, the Dean was able to reclaim the third floor of the Science and Engineering Library wing of the main library that had been occupied by the School of Engineering for over 40 years. Although the perfect solution would have been to wait to occupy the space until the planned renovation was underway, the feeling was that the space should be occupied immediately, since space on campus was at such a premium and the Libraries had been insistent for many years on their need to reclaim this space. Accordingly, the newly formed division of Technology Services moved its entire staff to the third floor during the summer of 2010. This move created individual offices for almost every staff member and also

allowed for OIT staff with special responsibility for library systems support to have offices there. This move accomplished many long-term goals, and along the way allowed OIT and CUL systems staff to work together in adjacent space and enjoy the synergy that comes from being next door to each other.

Since this move had worked so well, the CIO came to the Dean with the request that she think about a proposal to move OIT's public Help Desk functions into library space. At that time, the Help Desk was located in a new student services building, but was hampered by its limited service hours (8am-5pm), space shortages and security barriers. The two cultures were already developing a bond as a result of the propinquity of library support staff and it was thought that this move could form a building block toward a much more integrated relationship. The main library was more centrally located, and adjacent to the student center. It was also open many more hours. A series of space dominoes began to fall, resulting in the relocation of the OIT Academic Technology Services staff into the Information Commons (along with their Faculty Media Lab) and the OIT Help Desk staff moving into their space; the Student Multimedia Center was rethought as a concept, moved out of its separate lab space into the middle of the Information Commons, and a new lab was created to house a Touch Learning Center – which focused on teaching with touchpad technology (primarily iPads at the beginning.) The student technical support staff initiative was working well and the two staffs were happy with their joint initiatives, new space and new neighbors. The improvement in IT customer service as a result of the co-location with the library was demonstrated in the service metrics – a 38% improvement in calls answered and a 50% increase in student walk-up traffic! The improvement in calls answered was also the result of OIT's ability to double their student worker staff with the additional space provided in the new library site.

The final project during this period was the creation of a digital repository to house and provide access to SMU's research output. Although the Libraries had initiated a number of digital ventures over the years, and had created a very successful digital library that held over 9,000 images from CUL's special collections, there had not been much enthusiasm on the part of faculty for what is known at many institutions as an institutional repository. However, the global open access initiative combined with the U.S. Federal Research Public Access (FRPAA) and America COMPETES Reauthorization Acts created a more auspicious climate for a new initiative. Together with the AVP for Research and Dean of Graduate Studies, a tripartite partnership was created. The CIO found funds to underwrite the software purchase for a three year license, the Libraries developed a staffing/equipment/implementation plan and the AVP for Research promised funds for an in-house digitization grants program. The Digital Repository is currently under construction and being populated, outreach efforts are underway, and it is anticipated it will go live in January of 2012.

So, to sum up the last 30 years, the transformation of data processing to management information systems to information systems to information technology has taken us from mainframes to client servers to personal computers to mobile devices and applications. The recent trend towards the consumerization of IT, and the endless demand for wireless data and services have caused a shift from the traditional bricks and mortar storefront to a self-service anytime/anywhere requirement, and the new Software-as-Service (SaaS) movement. But what has happened to the relationship between the functional users of the systems and the IT staff that supports them throughout this incredible transition? With more power on mobile devices than those room-sized mainframes and more software tools,

business process re-engineering and applications imaginable, what additional functionality could users need?

It is our belief that process re-engineering (because that is a major part of what we have been about) takes much more than just hardware, software and 'improved' business processes to be truly successful. What has helped CUL and OIT achieve their goals is the deep web of intangible personal relationships and individual partnerships that has been formed and strengthened throughout the many years the groups have worked together. This partnership was not a mandate. It was not a top down directive. It was both a grass roots and leadership-level development. It was personal; there was genuine interest to work together. There was genuine interest in each other's business. There was genuine interest to help each other. That was the basis for the partnership.

Throughout the years and throughout all of the system upgrades and implementations, the relationship has grown stronger. Of course there were challenges and disagreements; however with each major system upgrade or project, even with all of the issues typically faced throughout these ordeals, we leveraged our strong foundation and became a stronger team. In the minds of both Library and IT staff, the Libraries and OIT moved from having a business relationship to being partners.

So what is the magic formula for those institutions still looking to effect change? Well, if you were starting off building a new organization from scratch, it would be easy....you'd find the people with the right chemistry and interests and motivation ... however, how many times do you start off with a blank organizational chart? So here is the magic formula:

BLcCtW + GliT + TA + AS + HLSO + OP = Successful Team Member

Belief that Libraries can Change the World + Genuine Interest in Technology + Technical Aptitude + Analytical Skills + High Level Service Orientation + Outgoing Personality

Put some of those types of people in your library and IT organizations and you will have the foundation for a great partnership. In addition, ensure that the leadership of both teams has the same interests and recognizes the importance of each other's team to the overall success of their organization and that of the entire institution. If you don't have people with those types of skills and interests, you will be challenged in your quest to succeed. It will be the standard 'customer' relationship with your IT department, it will be impersonal, it will just be a tug of war over the prioritized task list and who gets to call the shots. It will not be a partnership.

IT must be integrated into the library functional unit; it must be represented at the strategic planning sessions, it must be at the operational planning meetings; it must be there when things break; it must be physically present, all the time! IT must feel the same challenges, pain and issues as the library. Then IT will have earned its partnership status as well. At SMU, OIT staff were involved in both recent CUL strategic planning processes; in 1999, resulting in the report *For Future Reference: Central University Libraries Strategic Plan 2000-05*, and in 2007, *Unbooked & Unbound: Central University Libraries for the Second Century, Strategic Plan 2008-13*. OIT staff are an integral part of library systems operations at all levels – on the ground level, in tactical planning groups and in strategic decision-making. The reverse is

also true. Library staff are involved in OIT planning forums for various administrative and academic systems/software assessment groups. The Assistant Dean for Technology Services represents the Libraries on the University's IT planning group as well as the group that developed SMU's 2009 IT strategic plan. The ongoing initiative to create SMU's digital repository is a tripartite effort under the leadership of the CUL Dean, the CIO and the AVP for Research and Dean of Graduate Studies.

Both organizations continue to face transitions going forward; without this strong partnership, the transition to the next generation will be almost impossible. Both organizations are being challenged to stay relevant. With the advent of cloud computing, digitization, huge network pipes, self-service and incredible mobile devices, both the IT and library worlds are changing rapidly. While Moore's Law, which states that the number of transistors on a chip will double every two years, (Moore, 1965) has driven the computing industry for over 45 years, futurist Ray Kurzweil believes that the growth of technology has an exponential rather than linear trend. In his book *The Singularity is Near: When Humans Transcend Biology*, he presents a world view in which the 21st century will see "on the order of twenty thousand years of progress ... when measured by today's rate." This is the rate of change that is the driver for turmoil in our professions (Kurzweil, 2005.)

IT initiatives in higher education previously went back and forth over the years between central and local IT teams; today cloud computing has the potential to make both modi operandi irrelevant (Armbrust, 2010.) Libraries have the challenge of deciding which publications should remain on the physical shelves versus the digital shelves, and teaching students that the top search results from Google are not the only resource available, and may not even be the best. The technology is in place to accomplish our dreams. Now it is only our physical selves, our culture, our inability to adapt to the new 'now', and the conventions of the past that are holding us back. How will we measure up to our vision of where we want to be?

In 1985, Apple developed a set of principles in the Apple Classrooms of Tomorrow (ACOT) Program which was updated for the 21st century in the Apple Classrooms of Tomorrow/Today (ACOT²) program (Apple, Inc. 2008). Although targeted to high schools, the principles are very relevant to the higher education environment - creating a learning environment and being user focused. We need to position ourselves as leaders in each of the areas listed:-

1. understanding of 21st century skills and outcomes
2. relevant and applied curriculum
3. informative assessment
4. a culture of innovation and creativity
5. social and emotional connections with students
6. ubiquitous access to technology

In documenting our story, we have touched upon some of the reasons why organizations can be held back. Our cultures and the conventions of the past play a major role. Innovation has not been valued as highly as other ways of thinking. We feel honor bound to preserve and protect the past, we prefer the status quo to an environment of change. Consensus building rather than agility governs our processes, we believe in perfectionism rather than satisficing and the new trend that values crowdsourcing vs. the expert dilutes the librarian's relevance and skills. The traditional mainframe computing technical staff

suffer from several of the same qualities; wanting to simply sit in the corner and only write code no longer works; wanting to 'talk' to their computer instead of to people no longer works; not integrating with functional teams no longer works, and not effectively communicating and facilitating no longer works. It is when you think about our cultures that you start to see some of the handicaps we need to overcome or evolve from if we are not to become obsolescent. The mission statement of SMU's Information Technology Advisory Council succinctly captures this dichotomy and outlines the need for striking a balance – "SMU has a complex decentralized structure and the technology environment should create a balance between: Innovation vs. Stability/Reliability, Standardization vs. Autonomy/Experimentation, Accessibility vs. Security/Privacy, Consensus vs. Efficiency in Decision Making, Centralized vs. Distributed Services, Proprietary vs. Open Source" (SMU, 2010.)

Much has been written on how organizations have a similar, life-cycle pattern of changes to living organisms. They "grow, mature, decline, and eventually pass away" (Sundarasaradula and Hasan, 2005). Systems need to maintain their equilibrium in changing environments and the process of self-maintenance or 'homeostasis' is requirement for viable survival. Homeostasis is often defined as the process by which a system preserves its existence through the maintenance of its dynamic equilibrium (Flood and Carson, 1993.) It is crucial that organizations are open and that they evolve in order to prevent entropy or death. This is why it is so important that librarians and IT staff actively work to change their respective cultures.

A recent column in the October 2011 issue of the journal *portal* by Charles Lowry and Sue Baughman, entitled "We do not know what the future will be, except that there will be one" cited the economist John Maynard Keynes, "It's better to be roughly right than precisely wrong," basically inferring that framing our future with enough 'roughly' correct scenarios that prepare us for what happens in the end is more important than procrastinating in hopes for 'precision' (Lowry and Baughman, 2011.) As groups, we are not very comfortable with blue-skying, what-iffing, or scenario planning. We need to get over that if we are going to evolve and survive!

At the same time, we are witnessing a phenomenon known as the democratization of information. Clay Shirky's book, *Here Comes Everybody*, (Shirky, 2009) is a fascinating study of this cultural change. He documents the decline of deference as a quality, the decline of trust, and the rise of unvalidated sources and search engines such as Google and Wikipedia. The web is a social medium that supports massively distributed collaboration – literally, here comes everybody. With empowering tools, everyone is an author. A blogger does not have to have the wit or insights of a Jane Austen or Samuel Johnson to put his/her opinions out for everyone to share. The web is flat, non-hierarchical – you don't have to ask permission or go to the librarian. There are 174M blogs out there (according to BlogPulse October 28, 2011) and still counting. We are witnessing the convergence and reinforcement of two great defining moments – the ascendancy of the individual with the empowering technology of the computer (Shirky, 2009.)

So, back to our brave new world! In the 1990s, the military developed a concept to describe the new global conditions they were dealing with: – VUCA, Volatility, Uncertainty, Complexity and Ambiguity (Johansen, 2007). The phrase – "it's a VUCA world" has been frequently used to describe the very environment that we find ourselves faced with in our professions. VUCA has now been subsequently used in emerging ideas in strategic leadership that apply to a wide range of organizations and professions. One of these modalities is one that we are culturally very comfortable with – complexity. Our professional strengths are organizing information, making sense out of chaos, and creating the technology tools to do just that.

The global environment is certainly contributing to make this a VUCA world with a trend toward increased accountability for higher education and, within the university walls, for each individual unit on campus. How does the library bring value to the academic process? What is the return on the University's investment in those hefty technology upgrade costs? Are the librarians innovative and utilizing the latest mobile technology? Are IT staff staying ahead of the technology curve and able to support multiple platforms? A recent telling comment from John V. Lombardi, President of the Louisiana State University system, in *The Chronicle of Higher Education* – responding to librarians asking for more money for digital initiatives – underscores this trend. He said “If you can't persuade me that the work you're doing is going to make us more famous, we're not going to be interested in investing in you... the football team is allowed to run a deficit of \$3-7M. And you're not!” (Howard, 2011.)

To return to our exploration of library/computing center mergers and other organizational models. Recent surveys have indicated that administrative pressure for economies of scale has been the main driver for most organizational integration (Seiden and Kathman, 2000.) Left to their own devices, their own visions, their own desires, library directors and CIOs are more likely to want to work together in their respective units than be subsumed in a larger organization. The freedom to maintain the independence to change dynamically and proactively while creating new and synergistic partnerships is much to be valued.

This is a wonderful time to be in our chosen professions. But library and IT leaders need to create a genuine culture of innovation and creativity. It is not enough to fund innovation awards or grant programs. They must reward attempts to create something new, to do something different for our users. Allow the staff to make mistakes, to take risks without fear of getting their knuckles rapped for not following the rules. Hire non-librarians for jobs that will allow a shakeup here or there. Hire young people who are on top of the technology and use social networking. Generation Z has been raised on technology; can your staff even speak their language, much less understand what they are doing with technology? Leverage these students and their technology expertise; integrate them into your teams. Let them bridge the gap and watch the staff learn. Make technology innovation a part of everyone's job. On management guru Tom Peters' web site, he has a long list of what it takes to become an adaptive organization, and expanded this list further in a full length book *The Little Big Things: 163 Ways to Pursue EXCELLENCE* (Peters, 2010.) Whether you are managing a one-person shop, leading a team of 10, or are responsible for a much larger operation, you need to be in the mix at your institution. Bob Johansen, of VUCA fame, has recently converted his slightly negatively focused slogan to a more positive interpretation - Vision, Understanding, Clarity and Agility (Johansen, 2009). With these values as our cultural context, how can we go wrong?

At SMU, the Libraries and OIT feel well placed to continue our longstanding partnership and to work together to develop exciting space plans and new services as part of the upcoming renovation of the main library. We truly believe that libraries and technology are in the midst of a revolution. It is not your grandmother's library nor your father's computer any longer, and will never be so again. Are you ready to play your part?

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