Mon Valley Providers Council--Technology Management Team

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PART I: CONSULTING SITUATION

About the Organization

The Mon Valley Providers Council (MVPC) is an alliance of human service and related organizations that are based in or have a substantial service presence in the Mon Valley. The MVPC serves as a formal network for information and resource exchange among human service providers. For a more specific list of communities served, please refer to the appendix. The official mission statement of MVPC follows:

The Mon Valley Providers Council, in collaboration with individuals, families, and groups in the Mon Valley communities, will define and address mutual issues and needs. Building upon the providers and communities, the Mon Valley Providers Council will promote agendas and develop resources for collective action.

The Human Services Center Corporation resides in the Westinghouse Valley Human Services Center in Turtle Creek, Pennsylvania at 519 Penn Avenue, Turtle Creek, PA 15415. MVPC is a project of HSCC. Thus, MVPC is staffed by HSCC.

The Mon Valley Providers Council focuses its efforts in four areas (called "working groups"): Employment and Training, Health, Housing, and Youth. The Employment and Training working group aims to develop a network of agencies that connect people seeking employment to appropriate training programs and to develop a network of agencies that connect job-seekers with employers. The Health working group aims to establish a group of social service providers and other groups to examine the health needs of the Mon Valley region and to meet these needs. The Housing groups aims to facilitate interactions between housing providers and residents to address the housing needs of the public and private sector. Finally, the Youth working group focuses its efforts on providing direction and enriching activities to area youth including community service and mentoring. MVPC is not directly involved in the operation or guidance of these working groups. Rather, it serves as a facilitator that makes these working groups possible.

MVPC has two full-time staff members. Dave Coplan, MVPC's Director, has many responsibilities including raising funds, organizing events, and communicating with member organizations. The Career and Workforce Development Director, Deborah Brown, is responsible for surveying local employers, finding available positions for job seekers, and coordinating MVPC's annual career expo. To help Mr. Coplan and Ms. Brown with organizing events and other work, there are two student interns. MVPC's finances are handled by HSCC's Business manager, Sloan Hamilton.

MVPC's funding comes out of the HSCC's budget. HSCC's annual operating budget is around $600,000 and $150,000 of that goes into MVPC. HSCC owns the Westinghouse building in which it operates. In addition, the space in the building is also rented out to 17 other organizations. Sixty percent of HSCC's revenues come from renting out building space. Foundations and other organizations such as the United Way account for about 20%. Finally, the annual fund drive seeks to raise $50,000 each year.

Technology Situation, Problems, and Opportunities

Technology plays a large role in the daily operation of MVPC. Mr. Coplan uses his computer for email correspondence, making flyers, writing the MVPC newsletter Communicator (with Ms. Kyzer, HSCC Youth Programs Director). He has a Palm Pilot that synchronizes with his computer, which he uses mainly for scheduling appointments. He uses a DOS-based fundraising software on a second pre-Pentium

class computer. Ms. Brown uses her computer for word processing and light data management. Finally, Ms. Hamilton uses her computer for managing finances and writing correspondence. In general, the rest of the staff uses their computers for email and composing documents.

In general, the 20 computers (including the computers in the computer lab) are Pentium I or II's with Windows 98 installed. Monitor sizes tend toward being small (around 15 inches). All but two computers are networked together and share Internet access through a DSL connection. The stand-alone computers are used by volunteers for miscellaneous purposes and have no need to be on the network or connected to the Internet. The computers all have around 128MB of RAM and 7GB+ hard drives. The computers can print to a laser printer in the lab. One computer stands out—a high-end Pentium 4 with a CD-writer, photo printer, and sometimes used for downloading pictures from their digital camera. The computers typically have Windows 98 and Microsoft Office installed. Other notable software includes Quicken Quickbooks and a DOS-based fundraising software.

In the past, MVPC relied on the Special Projects Coordinator (SPC) for technology management. When the SPC left the organization, MVPC became dependent on external consultants for technical help. Mr. Coplan realized the need and value of MVPC becoming more self-sufficient by cataloging and sharing technical knowledge so that it becomes a part of MVPC. Mr. Coplan has assumed responsibility in this respect and would like to learn more about technology so that HSCC/MVPC can become more self-sufficient in managing its technology.

Consulting Partnership Focus

The student consultant worked with Dave Coplan, Director of MVPC and Associate Director of HSCC. He has many responsibilities including raising funds, organizing events, and communicating with member organizations. Responsibility for managing technology had been officially assumed by the Director of MVPC (Mr. Coplan) and the Youth Programs Director of HSCC (Ms. Kyzer). The work was primarily focused in two areas:

1. **Sustaining Existing Technology**:
   MVPC is dependent upon external consultants to handle any technical problems that arise in their daily operations. This dependence is costly in terms of money (consulting fee is $45/hr) and time ("downtime" waiting for the consultant to fix the problem). In addition, MVPC does not do much to protect its data; an incident (theft, fire, etc.) could plausibly cause MVPC to lose weeks of work!

   First, the consultant and the CP worked together to make a list of the most common technical problems. The consultant proceeded to teach the CP how to solve these problems, explaining various concepts and rationales. Topics covered included sharing resources of the network, virus protection, computer security, recovering from system failure, and general troubleshooting tips.

   Next, the consultant and CP focused on the internals of the computer. In this process, the consultant and CP went through the process of conducting a hardware and software inventory, identifying the components inside a computer, replacing a hard drive, and adding/replacing memory.

   Finally, the CP and the consultant developed adequate back up procedures to ensure the safety of MVPC's data and information. This process included the purchase of a new computer, a CD burner, and connecting the new computer to the network.

   The expected outcomes of these steps were that the CP became more competent in handling technical problems, maintaining/upgrading computers, and protecting important data. Throughout the work, the CP recorded the knowledge to be used to make a reference available for all staff to read. All together, MVPC can expect to save time and money and become less reliant on any individual for technology management.

2. **Developing a Technology Plan**:
   A technology plan is one of the most important ingredients to effective use of technology in any organization. In the process of developing a plan, MVPC will be forced to carefully evaluate and choose options that directly impact their mission. Other side-effects include minimizing technical problems, more efficient use of technology, and more effective spending of resources. Finally, it is will be easier to seek funding for technology when MVPC can justify the request with a sound technology plan.

   The consultant and CP began the process of developing a technology plan by assessing MVPC's technical resources by performing a hardware and software inventory. The key expected outcome was to have a good outline of a technology plan developed. However, time constraints prevented progress to go beyond the inventories.

PART II: OUTCOMES AND RECOMMENDATIONS

A. Consulting Outcomes

1. Sustaining Existing Technology

Having recently acquired the responsibility for managing technology, the CP needs to become capable in sustaining their current technology. To this end, the CP and the student consultant applied a three-pronged approach: 1) increase CP's general computer skills and knowledge, 2) ensure safety of existing data and information, and 3) documenting technical knowledge.

Outcome: Increasing Computer Skills and Knowledge

Much evidence indicates that the CP is capable of performing a broad range of tasks relating to managing the computers and related technology. The CP:

- can identify key components of a computer, including the CPU, memory chips, and hard disk.
- purchased and installed new memory. The old memory was installed in another computer.
- replaced a defective hard drive with a hard drive from an unused computer. In addition, the CP successfully installed Windows 98 SE on the computer and connected it to the network.
- completed a detailed hardware and software inventory.
- plans to perform a "network clean-up" – which includes resetting shared resources on the network. The CP gave all computers a permanent name and reset the appropriate network settings.
- updated all machines on the network with the latest Windows patches.
- drafted a technical reference manual containing much of the technical knowledge of MVPC.

The new skills that the CP acquired give clear indication of increased capacity. Since the CP can perform the above skills on his own, the outcome is at least sustainable for the short-term. To sustain this knowledge gain for the long-term, the CP has documented the knowledge needed for accomplishing the tasks in a reference manual.

Recommendation:

As the next step, the CP should complete the reference manual and ensure that it can be easily understood. In addition, the CP should investigate ways to improve the accessibility and ease of maintenance of the manual. There are several solid reasons for following this recommendation:

- The knowledge becomes part of the organization and not just an individual. If the CP were to leave the organization in the future, MVPC would retain a significant amount of knowledge.
- Documentation of knowledge is effective for long-term retention of knowledge.
- A public manual enables other staff beside the CP to possibly deal with some technical problems.
- If all staff can update the reference, it will be much easier to keep the reference up-to-date.

There are several critical steps to implement this recommendation. First, the CP must design a consistent format for each entry in the manual. Next, the CP needs to design the organization of the manual itself, ensuring that people can easily find what they need. Finally, the CP needs to select a format for the manual that can be easily accessed and easily updated.

Resources:

- Microsoft's support website (http://support.microsoft.com) has well written articles on various technical topics. It would be a good idea to model the entries in the reference manual after these articles.
- For storing articles, MVPC may wish to consider using TreePad – a general purpose utility for cataloging data. The software can be found at http://www.treepad.com.

Outcome: Implementing Data Protection

It is important for MVPC to ensure the safety of its critical information and data, such as their financial files. The CP has taken several steps in achieving this:

- The CP has installed virus-protection software on all computers. Additionally, the CP continuously updates the software for most effective protection.
- The CP has installed security software on all computers that enables staff to lock the computers from unauthorized personnel (i.e. kids, visitors).
- The CP is aware of network security settings that allows or prohibits a person on one computer to access files on another computer.
- The CP developed adequate back up procedures and purchased the necessary hardware.

The above represents new knowledge and skills that the CP has gained and thus demonstrates increased capacity. Again, sustainability has been achieved because the CP has documented the relevant knowledge and procedures.

2. Technology Plan

Outcome: Resource Assessment

MVPC realizes the importance of having a technology plan and has begun the process of developing one. Having a technology plan is one of the major benchmarks for technology literacy for non-profit organizations.

- The CP has completed a hardware inventory, software inventory, and mapped their existing network.
- The CP has learned what the key features of their hardware, software, and network are and also knows the process for getting the necessary information. Again the new knowledge has been documented, which will aid with sustaining the capacity.

This represents the first steps in developing a technology plan for MVPC. An outline of the remaining steps in completing the plan follows:

1. Create a "technology team." The team should be composed of various people representing different views. It is advisable to have at least one person who possesses significant technical knowledge.
2. Assess MVPC's needs – how can technology help in meeting these needs?
3. Brainstorm and explore possible solutions. This step may require the help of an outside consultant for the technical aspects.
4. Write the plan. Include a profile of the organization, the technology vision, resources budgeted, planned projects, a detailed schedule, and metrics for measuring achievement.
5. Follow through. Assign responsibility to someone for carrying out and maintaining the technology plan. Make technology spending a permanent part of the budget. Evaluate the completed projects to gather experience and improve for the future.

Resources:

- TechSoup (http://www.techsoup.org) as numerous articles on developing a good technology plan. The National Center for Technology Planning (http://www.nctp.com/tech_plan_links.cfm) also has a wealth of articles.
- The national benchmarks for technology literacy serves as a good guide for selecting projects for a technology plan. They can be found at http://www.npowerseattle.org/tools/benchmarks%202.21.02.pdf.

B. Additional Recommendations

1. Database Use

While working with the CP, it has become obvious that once MVPC is able to sustain its existing technology, an area of improvement would be in the use of databases for record-keeping. Database-use is one of the national benchmarks for technology literacy.
Databases are excellent for managing information, and MVPC has plenty of information. Not only will MVPC benefit from this, HSCC also stands to gain benefits from the use of databases. Databases can make certain processes more efficient as well as revealing new information and patterns that weren't apparent before.

Some of the first steps are:

- Determining what information is being tracked now, and what information could be tracked.
- Are there any reports that are needed on a regular basis?
- How does information flow within the organization? How does information flow into and out of the organization?

More information about planning and using databases can be found online at TechSoup:
http://www.techsoup.org/articles.cfm?topicid=6&topic=Databases&cg=nav&sg=content_topic6
As an alternative to handling databases itself, MVPC may wish to solicit the help of the Information Systems department at CMU. There are advantages and disadvantages to this approach:

- MVPC has a small staff and it may not have the resources to develop a database/information system on its own. A CMU Information Systems team has the expertise to plan, design, and implement an information system for free.
- Unless the system is extremely well designed, MVPC may have trouble sustaining the technology. A flawed system will cost MVPC significant time in using it.

For more information about the Information Systems program at CMU, the CP can contact Professor Randy Weinberg at rweinberg@andrew.cmu.edu.

2. Website Renovation

Currently, the CP maintains a website that acts as an online brochure of sorts for HSCC and MVPC. A website that plays a key role in the organization's communication is another one of the national benchmarks for technology literacy. The CP should seriously consider renovating the website because:

- Better organization and design can improve the effectiveness of the website as a communication tool. In its current state, the website breaks several basic usability guidelines for websites.
- If it has the resources, MVPC may consider adding interactive elements to its element to provide more value to its intended audience.

A first step toward polishing the website include:

- Rethink the organization of the website. Who is (are?) the target audience? What does MVPC want to communicate? What information can MVPC provide its audience?

- Beside providing static content (online brochure), could MVPC provide more interactive services to its audience?

Resources:

- Oxygen Communications has an extremely thorough and detailed article about building an effective website for non-profit organizations at http://www.oxygenate.com/web101/index.htm.
- Many consider Jakob Nieson as one of the most knowledgeable usability experts in the world. He publishes bi-weekly "alertboxes" that touch on various usability issues. The complete archive of all alertboxes can be found at: http://www.useit.com/alertbox/.
- Altrue.com (http://www.altrue.com) provides professional website building services at a low cost for non-profit organizations. The CP may consider this option if the renovating process is too time-consuming.

3. Norton Ghost

With a small staff, time is an extremely precious resource for MVPC. Norton Ghost provides a fast and easy solution for recovering from crashes or other data loss. The CP should consider installing Norton Ghost because:

- Fast and easy way to recover from system crashes and other strange errors on staff computers, reduces time needed to configure new computers – time is critical!
- Computer lab used by many people – easy for someone to accidentally damage system files or settings. Cloning software would make it easy to reset computers to a "clean" state.
- Common computer system configurations make troubleshooting easier.

Resources:

- Softwareshelf.com provides some good reasons for using system cloning software such as Norton Ghost: http://www.softwareshelf.com/products/nghost.asp.
- Radified.com (http://ghost.radified.com/) provides a fairly thorough guide to using Norton Ghost from start to finish.

About the Student Consultant:
Chi Shen is a senior at Carnegie Mellon University studying Information Systems and minoring in Computer Science. He is graduating in May 2002 and hopes to find a job where he can put his skills to use (such as a non-profit!).