

## Center for Hearing & Deaf Services – Context Analysis

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### About the Organization

**Organization:** HDS is a non-profit organization that provides products and services to members of the community who are deaf, hard of hearing, and/or speech impaired. Their office is located in uptown Pittsburgh at 1945 Fifth Avenue, with a small satellite office in Westmoreland. HDS was founded in the 1920s. Today, HDS has a budget of approximately two million dollars and assists over 2,000 people a year. HDS's budget is made possible through sales of products in its audiology department, program fees, fundraising, and contributions from organizations such as United Way.

The mission of HDS is “To provide a diverse and affordable program of quality diagnostic, rehabilitative and supportive services designed to address problems experienced by children and adults who are deaf, hard of hearing and/or speech impaired and serve as an information and referral source for this population and the general public.”

**Facilities:** HDS maintains two offices, a main office in uptown Pittsburgh and a satellite office in Westmoreland. The main office occupies a multi-story building (with employees on two floors), and in this office are all administrative functions as well as rooms used in many of the programs HDS provides. Each employee or group of employees has his or her own office, including computer with Internet access. There are entrances on both floors used by employees, but there is a receptionist on the first floor, where each employee must visit to sign-in in the morning.

**Program:** HDS provides a wide range of programs and services in support of its mission. These programs are Behavioral Health Services, Deaf Youth Program, Hearing Rehabilitation Services, Interpreting Service Program, and the Training and Social Rehabilitation Program. The Interpreting Service program in particular is one of largest parts of the organization because it involves working with a large base of licensed interpreters who are scheduled on a contract-by-contract basis whenever called for in the community. In addition to these various service-oriented programs, HDS conducts a retail business in selling hearing aids and other hearing-assistant devices.

Some of the programs provided by HDS are operated in conjunction with and with funding from Mercy Hospital, or under various other grants and proposals. One requirement of these programs that HDS uses is that HDS must maintain detailed records of when and how employees spend their time working on tasks that they want to bill back to these funding sources.

**Staff:** HDS is headed by President and CEO Thomas Bellucci. He also works with William Diehl, Director of Financial Services, and Monica Wilds, Administrative Secretary, to conduct the administration tasks of the organization. A few other employees (a clerk and two receptionists) also work to support the organization. There is a board of directors to which the CEO is responsible.

The rest of the staff is organized by department (see Program section), and these include audiologists, counselors, and other program assistants. There are approximately 25 people on staff at HDS, and all but two employees are salaried. These employees receive paychecks every month, with an interim pay period halfway through the month. The contract interpreters are not part of the HDS staff and are paid on a per-job basis. All employees are responsible for submitting timecards to the CEO; these are then processed by Monica Wilds.

A noteworthy point about the organization is that HDS uses timesheets for the purpose of tracking and allocating time (i.e. billing their funding sources), but how employees spend their time does not determine their pay. The CEO would ideally like to see this distinction made clearer in the technical solution discussed below, so that no outside auditor could mistake the employees for hourly employees.

Every employee has a computer with Internet access to assist him or her in daily tasks, using applications such as Microsoft Office and either Outlook or Outlook Express. Some employees use the computers frequently (e.g. those doing administrative work or interpreter scheduling), while others use their computers infrequently. There is a varying level of comfort with the technology.

**Technical Management:** HDS does not have an IT person on staff, but they do have two on call. Their primary contact is Marc Holmes, who is a former employee and has been managing the organization's technology for about eight years now. Whenever they need to do an upgrade or a problem occurs beyond their expertise, he is called. Over the course of the semester, a second IT person (on-call) was added to HDS's human resources.

**Technical Planning:** HDS does not have a formal technology plan, and most decisions on which projects are important and should be implemented are made directly by Tom Bellucci. Mr. Bellucci is attempting to incorporate more technology into this organization as opportunities present themselves. Some of his goals include acquiring a high-speed Cisco router for video sign-language usage, upgrading the building wiring, and the opportunities identified later in this report. There is no budget set aside specifically for technology, but money can be found in general capital expenditures and by grants from outside funding sources (e.g. United Way) that serve non-profit organizations like HDS.

**Internal and External Communications:** Each employee has a computer with network and Internet access. Everyone uses Outlook or Outlook Express for e-mail, if necessary, and uses various versions of Microsoft Office. HDS also has an external website, <http://www.hdscenter.org>. There is a mail server in the organization. There does not seem to be any system for sharing files other than email, though file sharing may not be a frequent need of the organization due to low technical interaction between departments.

**Information Management:** HDS must keep track of the schedules and timecards for its employees and for its contracted interpreters (though they are separate systems). Right now, each employee records his or her timecard information either by hand or on a homegrown Excel template. Paper timecards are then submitted to the CEO for approval, and the data is then re-entered by a secretary (Monica) into a master Excel record. These records are kept as legal documents in the event of an audit. Finally, every pay period Monica re-enters the hourly allocation yet again into ADP EasyPay, the company payroll software, so that a Labor Cost Report can be run on the data and used for charging time to grants.

## **Problems / Opportunities**

### **1. Standardize timecard reporting process**

**Description:** All but two of HDS's employees are salaried employees. However, some of their programs require them to keep track of how much time they spend on certain projects or functions. Furthermore, HDS wishes to be able to view how employees spend their time in aggregate to assess whether their different programs are receiving the appropriate amount of attention. Right now, each employee uses his own system for completing his timecard: some employees write their timecards out on paper, and others use homegrown Excel spreadsheets. The person at HDS responsible for payroll (Monica Wilds) must

take and process each of these different timecards into her own master Excel spreadsheet, then re-enter the information one more time into ADP EasyPay, the company's payroll system. Monica may spend up to thirty hours a month on these tasks, and has to process timecards twice a month.

HDS would like to make this process more efficient and less error-prone. This would free up Monica to perform other tasks beneficial to the organization. Ideally, all employees would also be using the same system for tracking their work hours, and all repeat data-entry would be eliminated.

**Description of Work Task:** There seemed to be two possible approaches to this problem. One approach we investigated was whether we could create a standard Excel form for employees to use and have it feed into the master Excel spreadsheet for HDS. Furthermore, we thought that it may be possible to use one of ADP's data importing formats to avoid re-keying this data into ADP EasyPay. This approach would provide a substantial time reduction at low cost. However, we found that our second approach had more value (see Outcomes for an explanation why). This second approach that we adopted was to find a suitable time and attendance management program that allows employees to manage their timecards online from their computers.

**Approach:**

- Discuss the process of timecard management with CP to fully understand the complexities of these tasks
- Work with a sample of employees to understand how they complete their timecards
- Research with CP possible timecard management programs to see if any are appropriate
- If such a program is found and is feasible, proceed to implement that solution with CP
- If not, try to develop a standardized Excel timecard that feeds into the master Excel sheet, with CP involved and providing expertise on what needs to go into such a template
- Investigate possibly using an ADP import format with CP

**Expected Outcomes:**

- Timecard management will be standardized
- Data entry will be more efficient
- Instead of spending thirty hours/month on data-entry, Monica will instead function as a support person for the new system
- CP will have increased abilities to make reports based on time statistics
- HDS will be paying a per-month fee for the use of ADP's services
- Each employee will learn how to use this software, which some may find easy and others may find a challenge

**Expanded Capacity:** As a result of these improvements, some of the administrative processes at HDS will become more efficient. This will reduce time spent on timecard management, reduce labor costs, and allow the CP to focus more time on work important to HDS's mission. Furthermore, employees at HDS will have a standard way to enter their timecard instead of many different custom solutions. After the partnership, the CP will be empowered to make changes to their timecard system as needed when new projects, funding sources, or employees need to be added to the system.

## **2. Implement online calendar/scheduling system**

**Description:** The opportunity described by the CP was to implement an online calendar/scheduling system for the organization. Since each employee has his or her own computer workstation and the building is fully networked, it should be possible to do this. Right now, if one employee wants to meet

with another, he has no way of knowing if that employee is free or busy, or even if that employee is in the office, without moving around the building. A sub-problem described by the CP is that the sign-in system currently used by HDS is inefficient. Right now, employees sign in on a clipboard in the receptionist's office. To find out if a certain employee is in the building, one must go to that office and check the log. These issues reduce productivity, and implementing an online system would enable the CP to spend more time discussing projects and opportunities related to HDS's mission.

**Description of Work Task:** The work task will be to focus on the calendar/scheduling system. If possible, a solution that takes into account the sign-in issues would be ideal, but this may have to be broken off into a different problem and left for another project. Because of the technology available to HDS, the first approach will be to consider using an Outlook-based system or a web-based calendar application.

**Approach:**

- Understand how much time is lost due to the lack of a calendar/scheduling system
- Investigate with CP whether their server will support an Outlook system or web-based system
- Research with CP different possible solutions, such as content management systems, and select the best option
- Implement solution with CP
- Work with CP to develop training for staff at HDS

**Expected Outcomes:**

- Employees will increase their productivity because of an online calendar/scheduling system
- There will be a centralized scheduling service for the organization
- Employees at HDS will be trained and comfortable using this system
- The organization might need to spend money upgrading its servers to support the system
- Someone at HDS will be capable of maintaining the system and assisting other employees with any difficulties. (This means that he or she will also have to divert some time from his or her other tasks to do this, which could potentially be a negative if this should prove to be a high-maintenance system.)

**Expanded Capacity:** As a result of implementing this system, HDS should be able to conduct the programs related to its mission more efficiently by being able to schedule meetings in advance and block time out on other participants' schedules. This should be quantified in terms of time saved by not having to visit the front desk or move around the office in search of co-workers.

At the same time, a broader purpose of deploying this technology could be to increase awareness and usage of computing technology throughout the organization. Not only will this serve to increase productivity and enable HDS's employees to better fulfill its mission, but increasing computer literacy by exploring this calendaring system might be beneficial in terms of making the organization more comfortable with other technology Mr. Bellucci could bring in (such as Consulting Task #1).

## II. Outcomes and Recommendations

### Outcomes

#### 1. Standardize timecard reporting process

**Situation Before the Consulting Project:** Before the consulting project began, each employee used his or her own system for completing their timecard: some employees write their timecards out on paper, and others use homegrown Excel spreadsheets. The person at HDS responsible for payroll (Monica Wilds) must take and process each of these different timecards into her own master Excel spreadsheet, then re-enter the information one more time into the company's payroll system to use its reporting features.

#### **Outcomes of the Consulting Project:**

- **Choosing which solution to implement**

The most challenging part of this consulting task was deciding which solution to adopt. As we had determined, there was a choice between developing an in-house solution using Microsoft Excel or even Microsoft Access and selecting a time and attendance package from a vendor. We initially considered the Excel-based solution on the grounds of it being cheaper, more familiar to staff, and possibly easier to implement. However, as we developed rough prototypes of a timesheet template, we found that we wanted more out of our solution than Excel could easily provide, such as a form-based look and feel or customizability for employees with different time reporting needs (e.g. a few time entries a day vs. a dozen time entries per day).

In search of a better solution, the consultant assisted the CP in searching for vendor packages that might achieve the desired results, using resources such as the Internet and TechSoup to locate software packages. Many of the packages that we encountered were geared more towards a time-clocking, hourly employee environment and less towards a project-based, time-tracking environment. However, our search included ADP's ezLaborManagement platform, which offered more flexibility and did show promise for HDS's time reporting needs. This is an Internet-based solution, where the data is hosted in ADP's data center and employees log-in to enter their timesheets and access reports. After further research and some dialogue with ADP, we found that it could in fact be used in a non-profit organization that wanted to track time for auditing purposes, and we decided to proceed with this solution.

- **Evaluating the fit of the software**

Having identified that ADP's ezLaborManagement software seemed to be appropriate for the organization, the next step was to more thoroughly evaluate the fit. To do this, the consultant assisted Tom Bellucci in identifying what the organization's reporting needs were:

- Standard timesheet reports and a mechanism for a supervisor to approve the timecard (which will now be done digitally instead of with a signature)
- Ability for employees to view their benefits (i.e. vacation days) and to request vacation time
- A Labor Cost Report (currently pulled out of the payroll system) which breaks down how employees spend their time, used for showing services rendered to grant providers
- Ability to record client's names when charging time to a cost center, used for the same reason

The primary software users (everyone will use the software to track time, but a few people will make use of the reports generated by the software), Monica Wilds and Bill Diehl, participated in meetings with the CP and the consultant to develop this analysis and to ask questions about the software.

- **Further exposure to the software**

The consultant helped Mr. Bellucci increase his understanding of the software, and Mr. Bellucci in turn presented the software to upper managers of his organization. In particular, the consultant showed Mr. Bellucci how to view ADP-provided webinars, and after viewing them with the consultant, Mr. Bellucci was able to view them again on his own and show other staff members how to do the same.

Aside from these webinars, the consultant and CP jointly presented the software to upper managers in a meeting. We used a projector to demonstrate the software's look and discussed how different features would apply to HDS.

Finally, the consultant, CP, and other key staff members met with a representative from ADP on site, where we learned more about the software and started asking and reviewing the fit evaluation documented above.

- **Beginning the implementation**

Tom Bellucci has now made the decision to implement ADP's ezLaborManagement software. Mr. Bellucci has decided to invest in at least a few months of the service to pilot the program at HDS, and has developed a plan in which a few key employees will begin using the software, and gradually the entire organization will be brought on board as parallel tests are run.

Upon completion of the implementation, this software's reporting abilities will be used in place of the payroll system reports, meaning that Monica will not have to spend time compiling employee data into a master spreadsheet and then re-entering the data into the payroll computer. She will instead be re-tasked to providing support to employees and producing reports to Mr. Bellucci – a more valuable use of her time. After each work period, Mr. Bellucci and other supervisors are now going to review and electronically approve employee timecards, possibly printing out a single timecard summary report for auditing purposes.

Deploying this software is a complex task because the organization's needs, pay codes, and desired reports must all be configured into ezLaborManager. However, ADP provides three weeks of conversion support, on-site training, and a monthly service contract in support of the adoption process. In essence, some of the needs for sustainability in terms of completing a successful implementation are therefore being addressed by the vendor.

**Evidence of Increased and Sustainable Capacity:**

- The CP led his managers through a webinar demonstration of the product
- The consultant helped the organization evaluate the fit of the software, so that the organization's needs can be better expressed to the vendor (see "Evaluating the fit of the software", above)
- Because the software and database are maintained by ADP in a professional datacenter, the organization does not have to worry about maintaining a server to support this application
- Mr. Bellucci is entering into a month-by-month service contract with ADP for their software, and is beginning a pilot program through July to further evaluate the software's fit to the organization, as well as its usability

### **Threats to Sustainability:**

- As the software is not yet deployed, employees have had little experience using the electronic ADP timecards in place of the paper or Excel timecards they use now. Employee training and adoption will be critical for this system to succeed.
- The organization has not yet run through a pay cycle (one month) using the new reports. Though the necessary reports have been found and explored individually, a live-run will be an important test of sustainability. If the organization can successfully complete two payroll cycles using this software on their own, it is likely that they will have the motivation and demonstrated ability to sustain this new technology.

## **2. Implement online calendar/scheduling system**

**Situation Before the Consulting Project:** If one employee wants to meet with another, he has no way of knowing if that employee is free or busy, or even if that employee is in the office. Furthermore, to sign-in in the morning, an employee must visit the front desk on the lower level of the building. The consultant and CP are looking for a way to implement an online calendar/scheduling system for the organization.

**Outcomes of the Consulting Project:** After careful consideration, the consultant and CP decided not to pursue either of these problems. We discovered that employees' internal scheduling needs were actually minimal (that is, there were relatively few inter-department meetings), which is the primary advantage that a networked scheduling system would bring. The benefit of having the ability to view another employee's schedule is outweighed by the costs of implementing and adopting a new system.

Separately, we decided that implementing an online sign-in (report to work) sheet was not the best course of action for two reasons. Firstly, we felt that logging onto a computer to do this was not much better (in terms of time) than visiting the front desk. More importantly, in the event of a building-wide emergency requiring evacuation, it is current policy that the receptionist takes the sign-in sheet as a record of who is in the building. We could not devise a feasible way to replicate this action if the sign-in system were computerized. Once again, we concluded that the slight benefits of an online system did not outweigh the problems and the costs of devising, implementing, and adopting such a system.

**Increased Vision:** Mr. Bellucci and the consultant had a conversation as to whether there was any additional value in either of these proposed ideas from the point of view of further increasing computer literacy company-wide for some broader purpose or mission. We concluded that although Mr. Bellucci would like to incorporate as much technology as possible into the organization (e.g. video conference calling), these particular projects were not valuable, even in this regard.

## Recommendations

### 1. Continue implementing ADP ezLaborManager software

**Reason for Recommendation:** HDS is still in the process of converting from paper and Excel based timesheets to the automated ADP ezLaborManager software as the semester runs out. During the partnership, the community partner and the student consultant made a lot of progress, as documented above. However, the following general steps remain at the end of the consulting period:

- Finish conversion process with ADP vendor support
- Begin a trial period/parallel test with the software
- Train staff in using this software

It is important to implement this recommendation because it finishes the work that we have begun during the consulting partnership and makes the software adoption sustainable. When completed, this new software will enable HDS to better fulfill its mission in the following ways:

- Standardize and automate employee time reporting processes, which means employees will spend less time recording time and more time on job-related functions
- Reduce the payroll-related workload on HDS's administrative assistant by reducing data entry and processing from thirty hours a month to five hours a month, and by providing employees with mechanisms to view benefits and timecard information without needing to go through this person
- Reduce the number of errors made recording time, which can be costly to find and correct

**Steps to Implement Recommendation:** This may seem like a fairly obvious recommendation to implement, and with ADP's assistance accomplishing the technical side of this task should be fairly straightforward. However, here are a few additional steps that may be non-obvious:

1. Build upon the work the consultant and CP performed to evaluate what our reporting requirements are. Without reference to the software, have Monica Wilds and Bill Diehl design "ideal" reports, which may be different from what they use now and from the default reports of the new program. Ask ADP if they can produce reports with these desired look and feels as part of the customization process.
2. As Monica and others receive training on software usage, produce documentation of common tasks and pitfalls. This can be distributed to employees as a "first reference", which will reduce the amount of time Monica spends assisting employees later.
3. Run a parallel test, in which you simultaneously use the ezLaborManager software and the old timesheet system. At the end of a pay cycle, determine if the numbers correspond, and attempt to fulfill your reporting requirements with the new software.

**Available Resources:** There are several resources available to help HDS in this process, including:

- Obtaining vendor support from ADP. Three weeks are included as part of the conversion process. Be sure to document the answers to technical questions you generate as you move through the adoption process. Remember that ADP should have experience with a wide-range of organizations, including those with similar time reporting needs as HDS's.



- Referring back to documentation provided by ADP, particularly on the functions of different reports. Keep in mind that not every report is appropriate for this organization, but this should be a general reference.

## 2. Develop a formal technology plan

**Reasons for Recommendation:** Throughout the consulting partnership, we discussed many different technology projects that the community partner was implementing or thinking about implementing. These included video conference phones for sign language interpreting, an online interpreter scheduling system, the online sign-in system that we considered and rejected, and upgrading the building's network wiring. HDS and Tom Bellucci have a strong desire to discover in what ways technology can be brought to bear on the organization and how it can enhance the organization's mission.

A technology plan is a working document that would formally define the organization's current technological position, set goals and objectives, and provide an opportunity to broadly analyze available technology in search of ways to further the organization's mission. Possible outcomes of formal technology planning might include a priority-list of specific projects that would benefit the organization, as well as general objectives such as standardizing the company computers, adding antivirus and firewall security, or even bringing in a part-time IT staff member. A technology plan would also provide criteria on which to judge the business merit of ideas for deploying additional technology in the organization.

It may seem in the short run that time spent on a technology plan is less valuable than time spent on a specific project, but the main advantage of a technology plan is that it provides a clear, focused, and organized outlook on technology, and it can be folded into the organization's overall strategic plan.

**Steps to Implement Recommendation:** To implement a technology plan, the following broad steps should be taken:

1. Decide to focus on developing the overall plan, rather than pursuing individual ideas as they are generated.
2. Research sample technology plans to understand the purpose of technology planning (see Available Resources, below)
3. Form a partnership with another consultant to develop this strategic working document (again keeping in mind that the goal is the plan, not a particular piece of technology in and of itself)

Here is an overview of the steps for technology planning, taken from the Microsoft article referenced below:

1. Establish leadership and support of your technology plan
2. Assess your current resources
3. Define your needs (and how technology helps HDS fulfill its mission)
4. Explore solutions
5. Put your plan in writing
6. Develop a funding strategy
7. Implement the plan and a timeline

**Available Resources:** This is a project that would be best undertaken as a partnership with another consultant, such as a future student in the Technology Consulting in the Community program. However, there are also various documents that provide insight on how a technology plan is written and what it

should include. It would be best to review these resources before embarking on a technology plan to understand how it can bring value to HDS.

There are several good resources available directly through this course, including:

- The Course Resource Page: <http://www.andrew.cmu.edu/course/15-391/Resources/>
- Technology Literacy Benchmarks for Nonprofit Organizations: <http://www.andrew.cmu.edu/course/15-391/Current/Curriculum/01W/TechLitBenchmarks-Revised.pdf>
- Past technology plans done by course students may also be available

There are also many online resources on how to develop a technology plan and on the value of technology planning. Here are a few examples:

- TechSoup: <http://www.techsoup.org/howto/articles.cfm?topicid=11&topic=Technology%20Planning&cg=nav&sg=techplan>
- Microsoft: [http://www.microsoft.com/smallbusiness/issues/technology/hardware/your\\_nonprofit\\_needs\\_a\\_technology\\_plan.msp](http://www.microsoft.com/smallbusiness/issues/technology/hardware/your_nonprofit_needs_a_technology_plan.msp)
- <http://www.associationmagazine.com/client/csae/AM.nsf/0/AD09736EE69C9F6185256BF30001E8AE?OpenDocument>
- [http://www.seniortechcenter.org/learning\\_paths/tech\\_smart/other\\_models/sample\\_technology\\_plan.php](http://www.seniortechcenter.org/learning_paths/tech_smart/other_models/sample_technology_plan.php) [Contains a sample technology plan]
- Many more resources can be found by running a search on Google for “Technology Planning”

### **About the Consultant**

David Mason is finishing his Junior year at Carnegie Mellon University. He is majoring in Computer Science and Business Administration. He is looking for a career that will put him in extremely dynamic, global, challenging environments and give him the ability to make an impact. While he does enjoy technical work (i.e. development), he is more inspired by being able to work with people to understand their needs and to deliver solutions. He likewise enjoys taking leadership positions and quickly looks for ways to move forward in any enterprise. He believes that by exposing himself to as many career paths and opportunities as possible, he will best be able to hone in on the work that he is most passionate about.