Executive Summary

Student Consultant, Nirav Patel
Community Partner, Justin Brown

I. Background Information

Storehouse for Teachers is a newly formed program of Pittsburgh Leadership Foundation, a local non-profit. The executive director, Justin Brown, founded the program to resolve one of the largest problems in education today, the lack of school supplies available for underprivileged children. The solution that the Storehouse puts into place is creating a free store for local teachers to shop for school supplies for their students. The mission of Storehouse for Teachers is as follows:

> *OUR MISSION is to serve teachers by providing free educational supplies in an attractive retail environment that fosters hope and relationships, engaging a supportive community*

II. Consulting Tasks

The consulting task undertaken was finding a unified solution for managing inventory, teacher information, and the processes of goods entering and exiting the store. The solution we discovered was to use point of sale software to manage all ends of the problem. After testing several software packages, we settled on Microsoft Dynamics Point of Sale 2.0, installed on a donated laptop. After we installed the software, we went through the basics of training and maintenance of the system, and documented the necessary processes for managing the information in the storehouse.

III. Outcomes and Recommendations

The primary outcome is the new use of a computerized point of sale and inventory program, which can manage the already growing inventory for the Storehouse. This builds capacity in that it prevents bottlenecks, allowing the organization to serve more teachers each day than they would if using paper or an Excel spreadsheet to store information. A secondary outcome is that with the reports that Justin can compile using the software, he can see what items are

moving faster than others and where demand is for items. This keeps the Storehouse efficient.

One future recommendation related to this software is having the inventory database integrated with the Storehouse's website. This would allow teachers to view what items are available and what is currently in stock without having to schedule a day to visit the physical store.

Another recommendation to convenience teachers is assigning them gift card style identification cards. It would serve the dual purpose of giving them a physical reminder that the Storehouse is an option for them, and making the check out process at the store much quicker. Further recommendations are listed later in the report.

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Community Partner

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About the Consultant

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Nirav is a junior in Electrical and Computer Engineering and will be consulting at the Ministry of Health in Palau this summer.

Storehouse for Teachers
Final Consulting Report

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Community Partner, Justin Brown

I. About the Organization

Organization

The Storehouse for Teachers aims to resolve one of the biggest problems in education, the inability for many students in underprivileged communities to be able to afford school supplies. The method through which they will accomplish this is by establishing a free retail style store in which teachers from those school districts will shop for the supplies their students need. Donations of school supplies will come from local and national corporations. The mission and vision of Storehouse for Teachers is as follows.

> *OUR MISSION is to serve teachers by providing free educational supplies in an attractive retail environment that fosters hope and relationships, engaging a supportive community*

> *OUR VISION is a community transformed by a strategic network of teachers equipped and motivated to educate & inspire our children*

Facilities

The organization is currently run from within the office space of Pittsburgh Leadership Foundation (PLF), occupying half of the fourth floor of 100 Ross Street in Downtown Pittsburgh. The space consists of about a dozen offices and conference rooms used for PLF programs like the Storehouse for Teachers, CLEAR, Pittsburgh Servant Leaders, Pittsburgh Youth Network, TVS Coalition, Amachi Pittsburgh, and The Leaders Collaborative. School supplies are temporarily being stored in donated space in a warehouse in Carnegie. The organization is currently in search of a permanent facility with warehouse space attached to the retail space and offices, which the organization in its entirety will relocate to. The move to this facility will occur during the fall of 2008, with the facility opening in the first quarter of 2009.

Programs

The program of Storehouse for Teachers is the storehouse itself. Public school teachers report having to pay up to $3,500 annually out of their pockets on school supplies for their students. Through the free store, teachers from poorer school districts will shop for much needed school supplies as well as incentives and prizes for their students. After the teacher distributes the supplies in the classroom, students write thank you notes to the donors. The Storehouse will pilot with a few of Pittsburgh Public Schools' districts to begin with, and gradually expand to

serve all of Allegheny Country as well as surrounding areas. The school districts being partnered with are those in which more than 70% of students are on a subsidized lunch program, but the specific ones have not been chosen yet. This program is currently under development and it will begin serving teachers when the Storehouse opens in the first quarter of 2009.

Staff

Justin Brown, the Executive Director, is currently the only permanent employee of the organization, and his duties include seeking board members, establishing partnerships with other organizations, and applying for grants. He is comfortable with using technology, and manages his information with an iPhone and a Macbook Pro.

Karen Johnson is an intern from the Pittsburgh Urban Leadership Service Experience, run by the Mennonite Urban Corps, and the main component of her job is managing inventory and the warehouse. She uses a Windows XP desktop, and stores inventory information temporarily in an Excel spreadsheet. She will be staying with the organization until the summer of 2008.

Doug Turner manages the IT tasks for the Pittsburgh Leadership Foundation, and thus also partly for the Storehouse for Teachers.

There are several other people who work part time on specific aspects of the project, such as marketing and grant proposals.

Technical Environment

The organization currently uses the Pittsburgh Leadership Foundation's network and computers. The PLF runs a network of Windows XP computers of varying age, but less than 5 years old. The computers are functional and well maintained. There is an Active Directory server that stores documents for easy communication, and there are shared network printers. The computers are in the process of being replaced with donated custom built computers less than two years old. These computers were donated without hard drives or operating systems, and are being refurbished and put into use.

Technical Management

Currently, the network and computers are managed by Doug Turner, who is the de facto IT staff of PLF. Blackbaud's Raiser's Edge is used to manage donor information. The website for Storehouse for Teachers is a simple information page on the larger PLF website, and there is no overhead in maintaining it.

Technology Planning

As the organization is new and still small, there is no explicit technology plan yet.

Internal and External Communication

Internally, most communication is spoken, due to the small number of people working there. Externally, communication with other similar organizations is split evenly between email and

telephones. Communication with donors is primarily in person. The website, *http://storehousepittsburgh.org*, is a simple one page description of the program on the PLF site.

Information Management

There is a shared drive on which documents for all of PLF are stored, however there is some information for the Storehouse that is only in paper format, which can lead to data loss. Justin's Mac is backed up using Time Machine, with regular backups to a .Mac account online.

Business Systems

All back office work is managed by the Pittsburgh Leadership Foundation.

II. Scope of Work

Task 1. Point of Sale and Inventory System

With thousands of square feet of warehouse and retail space, hundreds of unique items, and dozens of teachers shopping every day, keeping track of what and how much enters and leaves the Storehouse is no trivial task. In conference calls with similar organizations around the country, we found that many face a severe bottleneck in their programs due to the amount of manual paperwork necessary to manage inventory and point of sale operations. Thus, to alleviate this problem before it starts and to allow for efficient and convenient management of the Storehouse, it will be necessary to implement a computerized point of sale and inventory solution. This will prevent checkout bottlenecks and loss of inventory.

Expected Outcomes

I. Storehouse employees will understand usage and processes of inventory, warehouse, and point of sale management.

II. Hardware and software will be installed and running.

III. The system will be documented for future maintenance and training.

III. Outcomes and Recommendations

Task 1. Point of Sale and Inventory

The primary task worked on for Storehouse for Teachers was designing, configuring, and documenting a combined Point of Sale (POS) and inventory system to manage receiving, stocking, and retailing free school supplies for local teachers. The software package used for this project is Microsoft Dynamics Point of Sale 2.0.

Outcomes

 As the storehouse will not officially open until early 2009, the scope of this project was primarily choosing the correct software and hardware, customizing it to the needs of the organization, and ensuring that documentation and processes were in place for future employees to be able to learn and maintain the system.

After discussing the needs of the organization and processes that would benefit teachers and students the most, we searched for software packages that could potentially fulfill these needs. After researching, quoting, and whenever possible, testing a demo of software like OpenBravo, OpenTaps, Compiere, and Quickbooks Point of Sale, Microsoft Dynamics Point of Sale, and custom written software. The key points with which we eliminated potential software were price and ease of use. Custom software for the situation would have cost tens of thousands of dollars. While many of the large free open source packages are highly robust and flexible, they are beyond the IT abilities of a small organization. We ultimately chose Microsoft Dynamics Point of Sale 2.0 based on its price, ease of use, stability, and compatibility with other Microsoft products.

Microsoft Dynamics POS has been set up in a test environment, and Justin Brown and I have configured it to match the needs and processes of a free storehouse. After some training, Justin is able to perform all necessary administration tasks as well as point of sale and inventory operations, such as adding customers, adding new items, processing incoming inventory, and performing the point of sale checkout. After walking through the processes, Justin was able to perform the processes of adding a customer, adding an item, and performing a checkout three times without requiring assistance. The software prompts to save a backup of the store database on every exit of the program, and Justin performed backups to the local disk as well as to removable USB thumb drive.

We have designed and documented the processes for managing customers, point of sale checkout, and entering incoming inventory. With the documentation, he will also be able to train Storehouse employees in usage of the system closer to the opening of the storehouse. He is also able to navigate Microsoft Customersource, which contains an immense amount of documentation and training material which he can use. It is also the primary source of support for the product.

Since the organization has only recently been created, and the main program is almost a year from its official start, capacity has not been increased, but created. It is useful to compare the state of Storehouse for Teachers to other similar organizations around the country. Many have stated that manually handling inventory and sales with paper or Excel spreadsheets is a hassle and a real bottleneck in how much inventory they can stock and how many teachers they can provide service to in a day. A handful of organizations stated their use of a computerized system, and how it helped them serve hundreds of teachers a week. Thus, the POS system will hopefully minimize hassle and time wasted for teachers.

Keeping teachers happy, as well as maximizing the number of teachers who can shop during a day directly benefits the mission of the program, bringing much needed school supplies to students in underprivileged communities. There is also the secondary benefit of being able to track which items are popular and which need to be purchased or restocked. Justin is able to create these reports using the POS software to keep the inventory flow managed, which ensures that teachers will get the supplies that they want and need. After performing several test teacher checkouts, Justin was able to create a report showing which items were sold most often during the day.

Recommendations

Online Inventory

It would be useful to interface inventory to the Storehouse for Teachers website. This involves making available the list of all items stocked as well as current inventory levels in a convenient form on the website. The description on the website would include a picture of the item as well as the "cost" of it. By placing the items available on the website, teachers would not have to make the trip to the physical store only to find that something specific they were looking for is out of stock or not stocked at all. It also allows the teacher to browse for what items are available beforehand, saving them time in the store. Existing processes in Microsoft Dynamics POS allows inventory to be exported for use in online stores. A similar process could be used to make it available on the Storehouse website. The process for transferring the information would need to be created by a vendor or consultant with Microsoft Dynamics and experience with e-commerce. Some local vendors to begin looking at are In4Arch at *http://www.in4arch.com/* and JourneyTEAM *http://www.journeyteam.com/*. Both companies should be contacted to request quotes for the work described.

ID Cards

Another recommendation is to use magnetic stripe cards as identification for the Storehouse. Teachers would be assigned gift card style cards with the Storehouse for Teachers logo on them. They would then present the card, which would be scanned in when checking out with items. By using a card that can be quickly swiped, much time is saved that would otherwise have to be spent manually entering the teacher information into the point of sale system. It also allows serves as a physical reminder to teachers that they can go to the Storehouse for items they need for their students. Gift card service is integrated into Microsoft Point of Sale through a company named FirstData at *http://www.FirstData.com/*. A service contract would

need to be started with FirstData for card processing as well as purchasing the physical cards. The resources required are primarily through FirstData. The service contract with them covers software and support.

Additional Lanes

The final recommendation is adding a second point of sale lane, which may or may not be necessary depending on how long checkout lines become. The first lane would then act as a server, and the new lane a client, to ensure that data remains synchronized between the two. If lines for checkout become too long at the storehouse, adding a second lane would halve the time necessary for teachers to wait in line. It also adds redundancy in the event of hardware or software failure in one of the lanes. The capability for multilane setups already exists in Microsoft Point of Sale. It is a matter of configuring the second lane as a client, which is a step by step walkthrough in the installer. Configuration details and specific training documentation can be found at Microsoft's Customersource website at *https://mbs.microsoft.com/customersource/*. Adding the second lane would involve more maintenance, as two computers would need to be kept up to date and working. It would also require that more people be available as cashiers to allow both lanes to operate at once.

Additional Recommendations

Technology Plan

As a new and forming organization, Storehouse for Teachers could benefit from creating a Technology Plan to outline how technology will be used, managed, and purchased as the organization grows. Having a specific plan that covers events like setting up computers for new employees or hardware failures, for example, could save time in the future. This ensures that times and energy will not be distracted from the primary mission of the organization. It is also a useful tool to plan out budgeting for future technology projects and purchases. Clear and insightful guides for creating a Technology Plan are available on TechSoup's Learning Center under Technology Planning at *http://techsoup.org/learningcenter/techplan/index.cfm.*

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About the Consultant

Nirav Patel is a Junior in Electrical and Computer Engineering at Carnegie Mellon University and will be spending the summer of 2008 consulting for the Ministry of Health in Palau via Technology Consulting in the Global Community and developing a computer vision library for One Laptop Per Child via Google Summer of Code.