Technology Consulting in the Community

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Final Consulting Report

National Council
of Jewish Women

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National Council of Jewish Women (NCJW) Consulting Report

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Executive Summary

This report details the consulting project between the non-profit organization, National Council of Jewish Women, Pittsburgh Section (NCJWPGH, www.ncjwpgh.org), and the student consultant, Ms Shirley Leow, a Masters Student majoring in Information Systems Management. The community partner is represented by Bonnie Rubin, the Interim Executive Director of the organization. She can be contacted at execdir@ncjwpgh.org for further enquiries.

Empowered by Jewish values, the mission of NCJWPGH is to improving the qualities of life for women, children, and families through various advocacy efforts to safeguard individual rights and freedoms. The organization accomplishes this through various programs targeted at troubled families, elderly and students with financial difficulties, with special focus on women and children, in the form of emotional, physical and monetary support.

The community partner Bonnie Rubin graduated with a Masters degree in Public Policy Management with non-profit focus, from the University of Pittsburgh. Throughout the whole consulting project, she was both enthusiastic and open to ideas and recommendations for technology improvements in the organization. On top of that, she was very sharp and fast in learning new technology concepts. Towards the end of the project, she could converse well using a number of technology terms and concepts that she learnt from the partnership.

Throughout the project, we identified a number of problems and opportunities that the organization should focus on in order to further reinforce the support for their mission, of which, we accomplished the three that is of highest priority to the organization. They were namely, "Transition of IT knowledge and management" focusing on minimizing the risks involved in the transition of responsibility and knowledge from their former IT administrator back to the organization, "Database Re-design and Replacement", which focused on creating or obtaining a more robust database system for its donations and activities management, and lastly "Transition to an Easy to Maintain Website" with the objective of extending website maintenance to staff that are not well versed in IT.

We ended the project with a working technical documentation of the organization's IT infrastructure, processes and policies that allowed for easy step by step follow-through for basic and common technological tasks, catered to non technical staff, and the establishment of a technology team within the organization. With this, IT responsibilities were transitioned successfully, and the value of IT was increased within the organization. However, the technical documentation was not fully completed. The organization would have to ensure its completion and regular revision in the future, so that this IT knowledge is available to all relevant staff.

We also shortlisted two potential non-profit constituent relationship management systems that were presented to the board for decision making. Due to our strong analysis and recommendation, the financial committee has approved for an IT budget to be included in the next period for the acquisition of the system. Only with the adoption of either of the choices can the organization improve its

capability in donation and campaign management, thus enhancing its fundraising potential. The critical success factor of this task moving forward is the implementation strategy of either of the solutions. These are in the Recommendations section of this report.

Lastly, we head-started the implementation of the content management system to manage the organization's web content, which was still in the preliminary stage at the end of the consulting period. The success of this task however, depends on how well the new website is designed to match the expectation and information requirement of its targeted audiences, and the willingness of the staff to frequently update the content.

The report ended with further recommendations for a three year long period into the future. It includes suggestions for the organization to adopt technology for enhancing the organization's ability to better communicate and interact with both internal and external stakeholders, and to enhance outreach. Besides leveraging on new technology to increase awareness and coverage in the public, this will also help to sustain the organization's interest and acceptance of IT by capitalizing on more technological innovations and products available.

I. About the Organization

Organization

The National Council of Jewish Women Pittsburgh Section (NCJW, Pgh) is an independent section of NCJW INC, the national umbrella organization. Established in 1893, NCJW, Pgh section started many community initiatives including the first free kindergarten, Jewish Family and Children's services, school lunch program, Life's Work Headstart and Renaissance Centre among many. Throughout its history, the organization has operated based on a guiding set of Jewish values and has head-started numerous Community Service Projects benefitting the Pittsburgh community.

> *The National Council of Jewish Women (NCJW) is a grassroots organization of volunteers and advocates who turn progressive ideas into action. Inspired by Jewish values, NCJW strives for social justice by improving the qualities of life for women, children, and families and by safeguarding individual rights and freedoms.*

NCJWPGH currently has a total of 1396 members who fund the activities, volunteer at community service projects and participate in advocacy efforts. The organization's community project efforts extend its beneficiaries beyond the Jewish community, serving clients from different backgrounds and disparate needs.

At the beginning of the consulting project, the organization did not have an available IT budget, but it was looking forward to establish a technology plan to support its upcoming long and short term strategic plans.

Facilities

The organization owns a three-story house named the Anathan house, which was donated to support its mission by the Anathan family. It is located in Squirrel Hill, Murray Avenue, and the main office is located on the second level. The main office houses the President's and the Executive Director's Office and the organization's administrative function.

In addition, it runs two social enterprises: the Thriftique, a thrift store that sells both new and gently worn items at affordable prices, and Designer Day Boutique (DDB), a designer fashion consignment shop. Revenue from these retail operations is used to support the organization's community efforts. In addition, NCJW, Pgh section, runs the Children's Playroom in three different Courts in Pittsburgh.

Programs

NCJWPGH's programs are categorized into Events and Social Services.

Events are mostly organized around an advocacy effort or community service project, where members, sponsors, and relevant community partners will be invited to attend meetings or seminars on social topics like "Silent Witness" for domestic violence. Once a year, the organization also holds a three-day Designer Day Sales event for its members and the public, to increase public awareness and raise funds for its activities.

The current list of social services includes:

1. **Children's Playroom in the Court**: A free childcare service located in each of the three Courts for parents attending to court matters.

2. **Book Drive**: This program runs hand-in-hand with the Court Playroom. New children books are collected and given to the children who visit the playroom.

3. **Pic A Bag**: NCJWPGH provides duffel bags packed with daily necessities and comfort items for children who are removed from home, before being placed in foster care, medical care or orphanage.

4. **Batch Packs**: Similar to Pic A Bag, this program provides back packs, filled with basic school supplies, to children at the Barrett Elementary School.

5. **Suit Yourself**: This program offer vouchers for women re-entering the workforce, which can be redeemed for purchasing working and interview clothes at the Thriftique store.

6. **Literacy Reading:** This effort provides supplemental learning services to children and teachers at a number of elementary schools.

7. **Silent Witness**: An effort with the aim of eliminating domestic violence by increasing awareness, raising support, and providing help to victims.

8. **Oral History**: This is a collection of shared experiences from volunteers in the past, detailing the organization's project histories and a source of information on the social changes throughout the years.

9. **Services to the Elderly**: This program extend aids to the elderly in the community like caregiver service, and focuses on aging, health, and Medicare issues for the aging community.

10. **Scholarships**: Post-Secondary Scholarship Fund is provided to students with financial needs who have also achieved satisfactory education performance

Staff

NCJWPGH has 59 board members and currently employs a total of 7 full-time and 21 part-time staff for its retail operation and children's playroom. At the start of the consulting project, the administrative function was supported by the Executive Director and the Office Manager along with a part time Staff Accountant/ IT Administrator who was transitioning out of her job. The organization depends on its active volunteer strength of about 100, to run both the services and events it organizes. The board members and staff that I worked with for the duration of this assignment are:

Staff	Technology Usage
Susan Nitzberg, President	MS Outlook, Office and Excel
Bonnie Rubin, Interim Executive Director	MS Outlook, Office, Excel and Constant Contact Email Marketing Solution
Cheryl Devecka, Office Manager	MS Outlook, Office, Excel, Access, Constant Contact Email Marketing Solution
Lisa Boehmke, Executive Assistant/Staff Accountant/IT Support* *Lisa's husband, Scott provides his service on a pro bono basis. He aids Lisa in her IT responsibilities.*	MS Outlook, Office, Excel, Access, Dreamweaver and Quickbook
Roxanne Wolk, VP Retail Operations	Consigner Management System (ConsignerPro)
Drue Miller, Marketing Consultant	MS Outlook, Office, Excel, Constant Contact Email Marketing Solution, Facebook, mySpace

*Note: Lisa recently resigned from her position and is currently working on a temporary basis to help in transition to a new replacement and therefore her husband Scott stopped providing service with the organization as well.

Previously, Lisa worked in the main office and provided daily book keeping and IT support. She performed daily data backup and resolved standard IT problems. Scott worked from home to provide IT expert advice. He also resolved more complex technical issues, while maintaining the organization's network, server, and databases. The organization is in the process of interviewing for a replacement for book keeping functions.

Technical Environment

Technology was adopted and utilized mainly in the head office to support daily operations. There is a computer at the Thriftique store that is connected to the Internet for simple emailing functions, and two computers at the Designer Days Boutique that are running a consigner management system. The children's playroom does not have IT in place.

The head office was operates on a six-year-old server (onsite) networked with a printer, a 4-in-1 photocopier machine at the administration office and 4 work stations, running on a Digital Subscriber Line (DSL) connection. At the end of this assignment, approval was given by the Finance Committee to purchase a new server and board approval should follow shortly.

At the beginning of this assignment, there was a password protected VPN connection established from Lisa's residence for IT support and management.

In addition, the organization subscribes to a third party mail server hosting service with 1and1.com that provides email service and web hosting service.

Technical Management

All files on the server were accessible both via workstations in the head office and the Virtual Private Network (VPN) connection at Lisa's residence.

Database backup was done at the end of each day on the head office's membership database and the consignment management system database. The backup copies of the membership databases were saved in the same server as the database itself, whereas the consignment system was backed up on a jump drive. Each backup copy consists of the whole database.

The organization also ran an existing web page managed using VB script and Macromedia Dreamweaver.

There was little communication or documentation on how the systems and network are managed.

Technology Planning

At start of this assignment, there was no technology plan and no available budget for technology improvement. Requests for purchase of new servers and database systems were halted due to lack of budget. Specifically, there is no strategic planning in place for IT.

Decisions on IT budget and purchases were made by the President and the Board members whenever requested by the Executive Administrator. The President has expressed concern in the unavailability of funds in the short term for IT purchases. Lisa's request 8 months before this consulting assignment, for a new server was still pending.

According to the Interim Director, part of the deliverable should include a Technology Plan so that requests can be made to the board for IT improvements.

Internal and External Communication

Internal communications among staff were most often exchanged using phone, E-mail and face-to-face. Communications to board members were done via email while volunteers and members were contacted via direct mail most of the time, as majority of the members do not make use of the Internet.

External communications to the public and potential members were supported by the organization's website at www.ncjwpgh.org, where information regarding the organization, current activities and membership details are provided. The website also supports online donations to the organization. However, the website was done by a third party who was no longer supporting it. It was built based on VB script and the organization uses Dreamweaver to make changes. Due to limited programming knowledge, the organization was not able to effectively update information like adding a new webpage or a new menu item to the website. It was only able to conduct simple changes to the words and pictures using Dreamweaver's WYSIWYG function.

In addition, the organization also has a Facebook and MySpace presence, together with listings on Craigslist, all of which are used to provide information of latest activities to the public.

Information Management

Retail, Membership, Donation, Services and Events information were stored in a mixture of Microsoft Excel spreadsheets and in the Microsoft Access database. It was common to have duplicate entries in the spreadsheets and databases due to the business process design. As a result the Office Manager in charge of processing donations and membership information had to spend extra time performing reconciliation of data for reporting, as well as multiple updates to several locations for a single information change (e.g. email address).

The consignment data in DDB was managed by a third party solution ConsignerPro. These data were reported and recorded by the main office.

Retail sales and other accounting information were recorded in Quickbook software, this being performed by temporarily by Lisa on every Tuesday of the week. The organization outsourced its Payroll function.

Business Systems Support Model

Internal Support

The head office's donation and membership database, and all its internal IT systems and network were only supported by the Executive Assistant and Scott, without external support. This includes Quickbook, the accounting system, where the organization did not pay for upgrades or maintenance services from the software provider.

External Support

DDB's third party consignment sales system resides in the shop's workstation and is managed by the retail employees. Future upgrades and maintenance services are managed by the software provider at an annual fee.

The organization's payroll function is outsourced and its email and web hosting services were managed by the third party service provider at an annual fee.

II. Assist in Development of an IT Transition Plan

The first and most important task identified for this assignment, was to assist the organization through the transition of technical knowledge and responsibilities from the Executive Assistant, back to the organization. Lisa had resigned from her position, but she was working part-time on the Accounting function and providing adhoc IT support service on a temporary basis until a replacement for these tasks was employed. Her husband Scott did IT support on a pro bono basis and was also relinquishing his responsibilities.

However, none of the current staff are equipped with the knowledge and skills required to take up this responsibility. In addition, all the IT related information needed to support and maintain the system was not documented. Thus, there was a high risk of failing to transition the responsibility from the Executive Assistant and Scott, back to the organization.

Both the client and the student consultant identified and agreed that a failed transition poses a high risk to the organization's operation. With limited information on how IT problems should be resolved, the organization may not know who to approach, for instance when a third party system fails, leaving it stranded when these problems arise. Thus key processes supporting the organization, its services and advocacy efforts will be affected, which will negatively impact how these activities are delivered to the community in terms of effectiveness and efficiency.

Expected Outcomes

The proposed solution was a well thought out IT Transition Plan to ensure success in the transition and provide for future maintenance of the organization's system. The work plan designed for achieving this solution includes these processes:

Major Steps in Solution	Expected Outcome	How are these outcomes measured?	Current Baseline
Document all hardware, software, database network related information	A documentation of the organization's IT infrastructure.	The development of a documentation that is accessible by all staff and requires lesser time for any new staff to learn this information	No such documentation exists as only the Executive Assistant is required to know this information. * But she was leaving the organization. (Therefore there was

			also no baseline for time taken to learn this information)
Ensure the latest backup of the database is available in the serve before the transition.	The latest working copies of backups for the last 30 days must be available.	Location of these externally stored backup copies is known and accessible by the Interim director and all staff at head office	Backup copies are maintained and stored by the Executive Assistant Interim Director is unsure of where backup copies are located
Identify possible IT incidents and document standard procedures required to resolve these incidents	Most of the future IT incidents and problems can be solved by referring to documentation	At least 75% of common IT incidents can be resolved by anyone who followed the steps in the document	All incidents were resolved by the Executive Assistant There was no specific documentation for the staff to follow
Identify knowledge and skills required to maintain the systems. If current staff are not capable, develop a list of the skill and knowledge criteria for new or part-time hire	Criteria to evaluate and select new hire	How well the new hire maintains and resolves incidents	No such documentation but the skills and knowledge should be similar or better than the Executive Assistant
If the organization decides to outsource maintenance and support of its system to third party, develop requirement for service level agreement	Criteria to evaluate and select third party service provider	How well third party maintains and resolves incidents	No such criteria list exists

III. Assist in Database Redesign and Replacement

The organization has a number of issues in managing and reporting information from its operation. This is both the result of an outdated database design and the limited IT knowledge of its staff. Therefore the second task identified was the need to re-design or replace the current database system. Here is a list of the problems summarized:

1. Ineffective management of events, RSVPs, and service data (number of children served etc). The Office Manager had to maintain event and registration information in various

spreadsheets with own discretion. Maintenance was a hassle as information had to be retrieved and combined from different sources. There was no standard format and process for information storage. In addition, she had to repeat these tasks daily in order to accomplish her jobs.

2. Members, Donors, Committee, Customers and Consigners information are stored in separate MS Excel files and MS Access Database with little linkage. In addition to the need for multiple entries for updates, it is difficult to determine if a member is a donor or a customer, or both without doing manual processing whenever a mailing list needed to be generated. The organization generated mailing lists as frequent as when there were events or announcements. This also proved tedious and time-consuming especially on days when some members died, leading to a large number of incoming honorarium donations. It can easily take her at least 3 days to finish accounting for these donations.

3. Organization is not able to effectively manage and make use of volunteers' volunteering and members' attendance at events for more effective targeted communication in future events.

This inefficiency in information management posed potential problems like data inaccuracy, data loss, data inconsistency and information processing delay. In turn, this will impede the organization's ability to better serve the under privileged communities, affecting important processes, resulting in low volunteer and member engagement for events, and even loss of donation information, which may eventually result in the reduction of support from members and donors to the organization.

Expected Outcomes

Three potential solutions to this problem were expected. A build solution where we re-design and build a new database, purchase or adopt a free existing database solution off the shelf from existing software vendors.

To guide the President and Executive Director in arriving at a solution, this is the approach that I will be taking:

Major Steps to getting a Solution	Expected Outcome	How are these outcomes measured?	Current Baseline
Study current database design to see if it can be fixed by making minor changes	A list of changes that need to be done based on user requirements	Not Applicable	Not Applicable
Research and shortlist potential off the shelf solutions from vendors	A list of 3-5 potential solutions with cost information	Shortlisted vendors solution should fulfill at least 80% of the organization's information and usage	The percentage of user requirements that the current database system meets (60%)

		requirement	
Identify time and resources needed to build new database system	A breakdown of time and effort needed to complete the system, by functions and features	System should fulfill at least 70% of the organization's information and usage requirement	The percentage of requirements that the current database system meets
Create an evaluation matrix that calculates the total cost of ownership (including future maintenance) of the shortlisted solutions together with the 'build' solution	It should be clear whether buy solution is more attractive than a build decision	The solutions should be measured by total cost of ownership and the one with the least TOC should be chosen	Not available

IV. Assist in Transitioning to a Easy to Maintain Website

The organization's website was coded using VB script, done by a third party web designer. Editing was done using Dreamweaver as the webpage editor. However, none of the staff knew how to manipulate the underlying codes or make use of the editor to update the web pages. In addition, the website, in its static nature acted as a one-way communication to the public. To engage the public and potential members, the website has to allow for interactions e.g. message boards for people to post questions and receive immediate responses, etc.

As a result, old information on the website may not be updated in time, and detailed information on new activities and advocacy efforts cannot be posted on the website. With little updates, it creates little incentives for the public to visit the website regularly for new information regarding new activities. With little information of current activities it may lose potential members to other organizations with a website that posts up to date advocacy efforts. Therefore, the organization will be restricted to its current member base making it hard to grow in size and social activities, which is one of the main objectives of the board.

Expected Outcomes

This is a joint solution developed after meeting with the Marketing Consultant, Drue. Drue had received adequate IT related education, and thus possessed the relevant business and IT knowledge that could potentially contribute to the improvement of the website.

Our initial plan includes:

Major Steps to getting a Solution	Expected Outcome	How are these outcomes measured?	Current Baseline
Implementing Content Management System for the website	President, Executive Director and any other admin staff will be able to update the website without learning how to code	Staff should take less than 30 minutes for simple information update Staff should take less than 1 hour to add a new webpage of information	Not able to update without learning VB script or Dreamweaver
Build on existence in social networking sites like Facebook and MySpace	Increase in number of members in both MySpace and Facebook Account	Membership on social networking site should grow by 30% a year More active volunteers. 20% increase in volunteer involvement over a year	Number of members in a year's time should be more than current members
Implement a President's and Executive Director's blog with RSS feed	Easy access to and feedback on President's message and updates	Lesser physical mail and email updates, more members switch to blog for information	N.A

V. Outcomes

A. Assisted in Development of an IT Transition Plan

Initial Scope

As a recap, the objective of this consulting solution was to eliminate the organization's technical dependency on a single staff member, by ensure that technological responsibilities are redistributed and general knowledge of the organization's IT architecture and operation is available to all staffs when needed.

My role in this consulting effort was to identify areas where information from the previous Executive Assistant (who was solely in-charge of IT) should be handed off and documented, and to identify and coordinate potential trainings that are necessary in order to complete the transition successfully.

Actual Work Performed

After an in-depth discussion with both the President and the Interim Executive Director, it was agreed that developing a working documentation of the current IT architecture, processes and policies, and delegating these responsibilities to the appropriate staff role in the organization would meet these requirements.

Outcomes Attained

Planned Major Steps in Solution	Expected Outcome	Actual Outcomes
A documentation of all hardware, software, database network related information.	The organization will be able to easily identify these components.	Developed a documentation of the IT and network components, processes and policies. *(Refer to Appendix C-Outline of Technical Documentation)*
Ensure the latest backups of the database are available in the server.	Before transition, a set of daily working backups for the last 30 days must be available.	A CD containing more than last two months of backups were handed by the Executive Assistant, back to the organization.
Identify possible IT incidents and document standard procedures required to resolve these incidents.	Most of the future IT incidents and problems can be solved by referring to documentation.	Documented information directions for contacting the relevant third-party service providers for technical support. This covers all third party hosted services.

		Also documented steps and procedures for maintaining server access, printer access, data backup and recovery and etc. *(Refer to Appendix C-Outline of Technical Documentation)*
Identify knowledge and skills required to maintain the systems that can be used for hiring or responsibility assignment.	Criteria to evaluate and select new hire.	Identified the actual versus preferred knowledge and skills required from the different roles documented.
If the organization decides to outsource maintenance and support to third party, develop service level requirement needed.	Criteria to evaluate and select third party service provider.	Organization decided to outsource server backup service to an external vendor-, MOZYPRO. No service level agreement terms were pre-defined. The organization accepted the service level promised by the vendor, which were stated in the contract.

Additional Outcomes:

- Established an IT committee that will meet regularly at the end of every quarter.
- Recommended new IT policies.
- The organization had taken over database backup and recovery responsibility. Jim Ricker, an external IT expert, had been performing both on-site and off-site backups till 01 December 2008 when the responsibility of performing off-site backup was delegated to MOZYPRO, an external data backup server provider.
- Responsibilities previously held by the Executive Assistant were delegated to the Executive Director, Office Manager, Website Administrator, and IT Administrator roles.
- Any existing staff will be able to access and learn about the organization's technical infrastructure, perform documented processes and resolve technical problems by following the documentation.
- Reduced over dependency on a single individual in the organization for IT management.

Improvements Achieved by Demonstrated Outcomes

Before

Prior to the solution, all technical responsibilities are accomplished by the Executive Assistant with extended complimentary services from her husband. The other staff in the organization is not aware of the technical details of how their servers and network are set up and maintained. As such, IT related tasks and resolution of technical problems are solely depended on the Administrative Executive. In

addition, the Administrative Executive triples as the Accounts Assistant and Executive Support. This sometimes kept her priorities away from IT. With Lisa's resignation from her position and resuming only a part time position till a replacement is found, the time taken for resolving technical difficulties inevitably lengthen and the organization was not able to improve the situation without the relevant capability.

After

Towards the end of the consulting assignment, Jim Ricker took over the IT administrative function of the Executive Administrator. He will be undertaking this position temporarily in the short term. In addition, we have documented both the organization's existing IT infrastructure and standard operating procedures and steps for resolving common technical difficulties. The documentation (Appendix C) was completed separately, the Student Consultant, an external IT Expert - Jim, and the Web Administrator, with inputs and feedbacks from the Administrative Executive and member of the Technology Committee.

Maintenance of access rights to server and network were assigned to the IT Administrator. The role of an IT Administrator is currently taken over by the External IT Expert and the Executive Director. The organization is looking at the possibility of a new hire for this position or placing the responsibility on the Executive Director. Jim had decided to re-design user access control for user to the server and would only be implementing it after the purchase of the new server. Daily backup have been scheduled with off-site third-party backup service provider. The Office Manager was given the responsibility for ensuring daily on-site backup is performed successfully at the end of each day and re-scheduling both on-site and off-site backups whenever necessary by following the documentation. Next, the Website Administrator has taken over the responsibility of maintaining the organization's website and overlooking the email service provided by same third-party hosting company. She had just completed Phase 1 development of the new website (Refer to consulting task C). Lastly, the technical team had its first meeting to discuss and decide on the IT transition strategy. Thus, with distributed responsibility, most IT tasks now receives a higher attention from its owner.

Outcomes that have not been demonstrated

For the past months, there was no major technical difficulties faced and therefore, we are not able to measure how helpful the documentation is in resolving the situations. In addition, the Office Manager has not conducted on-site backup as the organization is still in the process of purchasing an external tape drive. The Executive Director was also not taught on maintaining user access, as the new server has not yet been purchased. These outstanding tasks are high risks items as their effectiveness determines the sustainability of the organization's IT operation. I foresee a higher dependence on the Technical Expert for support the next two months which will decrease as they are more confident with their ability to accomplish their new responsibility. However, the speed in which they could reduce reliance is greatly dependent on the staff's willingness to learn and how important do they value their new responsibilities. Also, the technical documentation is not completed due to pauses in the purchasing of new server and backup tape drives. Lastly, the Technology Committee has only met up once and thus we are unsure if the members in the committee are appropriately selected to support the organization's growing thirst for technology.

Contribution of Outcomes to the Organization's Mission

As the outcomes reduce the organization's reliance on a particular staff to support the entire IT operation it lowers the risk of losing important information and know-how when the individual suddenly leave the organization. This greatly affects the sustainability of the organization's IT operation and will impact greatly on the organization's main functions like members, donations, event management and etc. In addition, with a more open management and communication of how the IT systems works, the organization can easily engage volunteers to help out in the office (e.g. during busy times) or as the organization scale in terms of membership and events. It shortens the IT learning curve of new staff when they take on the existing roles. Lastly, with more people understanding the system, it makes identifying and resolving problems with the system, and designing new solutions, more efficient than a single IT staff would.

Sustainability

These outcomes will be sustainable as the organization had since established policies for constant update of documentation whenever changes in infrastructural components are made, and when new technical issues and new ways of solving technical problems are found. This is further enforced by a recommended policy of a bi-monthly report of the system's health to the technical team via email. However, the biggest risk lies on the degree to how these policies are followed.

New Vision of Technology

These outcomes help to create a proactive technology mindset within the organization. It brings to the focus of both the President and Executive Director, the importance of IT management to the mission of the organization. It made them understand that the organization should move away from their high risk way of having only one staff in charge of its IT to one where knowledge and power is delegated to at least 2 to 3 people so as to reduce over-dependency on an individual. The Executive director has been busy with making a case for technology to be added as an agenda in board meetings and in the annual budget. Also she is actively exploring ways to better use technology. E.g. she is planning to set up a wireless working environment, friendly to its directors as they bring in their own laptops during meetings.

Most importantly, constant updating of documentation and a regular technology meeting paves way for a greater understanding of technology and facilitates an IT environment conducive to growth, where the organization is constantly aware of IT as a potential solution to its problems. The existence of an IT team also encourages higher exploration of IT which in turn increases the likelihood of a higher adoption of IT in the future. Part of the technology team's quarterly meeting agenda will be on exploring ways to better leverage the web and email technologies in order to better position the organization to the public, and improve communicate of the latest events and advocacies that the organization is focusing on.

B. Assisted in Database Redesign and Replacement

Initial Scope

The objective of this task was to identify and recommend a suitable database solution to improve efficiency in managing donation, member, events, volunteers and reporting.

Actual Work Performed

With both the President's and Executive Director's agreement that both sustainability and adequate technical support are two of the major criteria to the selection of the database, we have decided to eliminate the possibility of improving on the Microsoft Access database that was developed more than 6 years ago, as no one in the organization will be able to support and scale it in the future. Due to similar reason, we also ruled out CiviCRM due to the self-help nature of its technical support. The organization does not have adequate resources and IT knowledge to research to solve their IT problems.

Similarly, a build solution requires the organization to have a more in-depth knowledge of IT, in terms of how the new database system should help improve work efficiency. However, with limited IT knowledge and what it can do, the organization is not in the position to accurately define and map their requirements the potential improvements that IT can offer, for the creation of a really effective database system. Therefore, this is ruled out as a solution and majority of the work are focused on evaluating both Free and Paid database solutions, specifically on Constituents Relationship Management Systems (CRM) that provide in addition to data storage, the ability to manage and make use of this information via advanced reporting and data management features.

Due to the need for board approval, we are not able to perform implementations any of the potential shortlisted CRM systems.

Outcomes Attained

Planned Major Steps in Solution	Expected Outcome	Actual Outcomes
Study current database design to see if it can be fixed by making minor changes	List of changes that need to be done based on user requirements	Office Manager created list of user requirements that they new systems has to support (Refer to Appendix D)
Research and shortlist potential off the shelf solutions from vendors	A list of 3-5 potential solutions with cost information	Identified 4 potential solutions. -Salesforce Non Profit CRM -Convio Common Ground -Donor Perfect

		-Sage Fundraising 50
Identify time and resources needed to build and train the end-user	A breakdown of time and effort needed to complete the system, by functions and features	Discontinued
Create an evaluation matrix that calculates the total cost of ownership (including future maintenance) of the shortlisted solutions together with the 'build' solution	It should be clear that a buy solution is more attractive than a build decision	Established Total Cost of Ownership and Pros and Cons comparison on the 4 potential solutions (Refer to Appendix E)
Study current database design to see if it can be fixed by making minor changes	List of changes that need to be done based on user requirements	Discontinued

Additional Outcomes Achieved:
- A presentation of the evaluation and cost of the potential CRM software for selection and budget approval to the Board of Directors
- The finance committee also approved adding an IT budget line moving forward in fiscal year 09-10. The amount will depend on strategic plan outcomes and database management choices.
- Potential strategies for CRM adoption in both the short and long term
- Increased the organization's knowledge of how CRM systems can help in aiding and enhancing its fundraising efforts
- A list of additional information that should be captured in the new CRM system.
- A list of business rules and business processes that are performed by the Office Manager.
- A list of where information to be migrated to the new CRM are stored

Improvements Achieved by Demonstrated Outcomes

Before
This task was motivated by the inefficiency of the organization's overall operation. Information was scattered over different storage (MS Access Database, MS Excel, and Physical Document). The Office Manager had to perform multiple entries of data into various storage platforms, for a single transaction, in order to fulfill reporting requests and maintain data consistency. This process proves tedious and often causes in an average of a day's delay in responding to board queries, with Cheryl having to work overtime to generate the required information. Although the organization was aware that more sophisticated technologies or better work processes can help it improve the situation, it does not possess the knowledge of how this can be done.

After
The result of this task is mainly the acquisition of technology related education and information. The President, the Executive Director and the Office Manager were able to articulate and list accurately, the

differences between their current database software and the potential CRM solutions. Based on research findings and explanations done by the Student Consultant, and the demonstration and explanation by sales-person of potential vendors, they also understand the difference between proprietary and open API software. Based on this new knowledge, the Executive Director was able to independently present to the board, evaluations of the potential systems based on Features, Cost, Time, Scalability, Technical Support, and how the organization can learn from industry best practices by adopting solutions from large Non-profit CRM vendors like DonorPerfect and Sage. The organization now has two strategies for its CRM adoption:

1. Start with a hosted Free CRM by Salesforce in the short term and use that as a learning tool. Then with the experience and increase knowledge of what IT can deliver and new expectations, with proven improvement in efficiency, the organization can make a better case for purchasing from one of the major CRM vendor solution that is more costly as a long term solution
2. Start with Paid CRM solution if the board is willing to approve the budget in the short term.

The shortlisted CRMs are Salesforce and DonorPerfect.

Outcomes that have not been demonstrated
The real effectiveness of a CRM system cannot be determined without actually implementing it. In addition, success also depends on how well the organization streamlines or change its normal operating process for a better fit with the system. All these cannot be performed without actually selecting a system and making well thought out implementation plans. Thus, the effectiveness of the system depends on how much time and thought is put into the implementation effort and I strongly suggest that the organization work with an implementation partner if they do not have the available resources to do it themselves. A sub-optimum implementation would impede the full realization of the capability of the CRM solutions.

Contribution of Outcomes to the Organization's Mission

These outcomes serve to guide the selection and implementation of the selected strategy. Upon adoption of the CRM, it will improve the organization's agility in responding to donor and board member's requests. It also helps to improve the tracking of events and campaigns and increases the organization's ability to generate useful reports from the information that it owns. With more information on the organization's performance, together with members and donor's commitment to the organization, the organization is able to create better strategies for greater donor support and member's participation and thus directly enhances its ability to serve the community.

Sustainability

These outcomes are sustainable as long as the organization continues into the usage of the system, in the correct way (matched business process with the IT functions). In fact, it will even improve if the organization maintains its impetus for improvements in how new information can be stored and how the business process can be improved as the CRM systems upgrades its features.

New Vision of Technology

These outcomes provide further motivation for the organization to adopt and make use of technology. With the significant reduction of man hour needed to perform a task, and the increase in the amount of useful information that can be generated from their existing data through the system's reporting features, it will further impress the board and the staff the power of technology and entice them to continue to look out for more technologies that may enhance their operations or their performance in the non-profit sector.

C. Assisted in Transitioning to a Easy to Maintain Website

Initial Scope

The initial plan for this task was to explore options to better communicate or market the organization and its events and programs to the public. We have decided to focus on one objective: to assist the Website Administrator with the selection of a Content Management System that matches the feature requirements that the organization expects, on the organization's new website.

Actual Work Performed

Towards the end of the consulting project, we have chosen Joomla! due to its vast amount of online documentation and feature extensions (blog, discussion forums, integration with YouTube and Flicker etc), and the web design skills and extensive experience in website development (using Cascading Style Sheet), of the Website Administrator. It is also mainly due to her bad experience with using Drupal, which is one of the better competing alternative to Joomla!

Outcomes Attained

Planned Major Steps in Solution	Expected Outcome	Actual Outcomes
Implementing Content Management System for the website* (Preliminary phase. The site has not been rolled out yet)	President, Executive Director and any other admin staff will be able to update the website without learning how to code	Bought a Template and Customized it successfully Copied static information from the existing website to the new website
Build on existence in social networking sites like Facebook and MySpace	Increase in number of members in both MySpace and Facebook Account	Discontinued

Implement a President's and Executive Director's blog with RSS feed	Easy access to and feedback on President's message and updates	Implemented a blog

Additional Outcomes Achieved:
- A list of prioritized additional features for the new website, for future rollout (Refer to Appendix F-Website Features)
- Better way of delivering information to the member, donors and to the public

Improvements Achieved by Demonstrated Outcomes

Before
Due to the limited knowledge of website programming and usage of web content editing tools like Dreamweaver, the staff in the organization was not able to update the website in a manner and scale that they would like to have done. As a result, the information on the website remained static and thus is often not up-to-date. This provides lesser incentives for the public to constantly visit the page for information regarding the organization's activities.

After
Throughout the whole consulting project, the Website Administrator and the Student Consultant had worked closely to identify and implement an appropriate CMS system. Meetings were held with the President and Executive Director to identify potential features to be added into the organization's website for improved web communication, and to decide on how these features could be prioritized for an incremental rollout of the website. As of now, the Website Administrator has replicated the static information from the old website into the new website and she had implemented blogs for the President and the Executive Director where they could conduct both formal and informal communication with the donors, members and the public.

Outcomes that have not been demonstrated
As we have only completed preliminary website development, this website is not released yet. We will be expecting more features and function in the website before its debut, and the incorporation of other systems in the near future. Outstanding features in the upcoming phases are the incorporation of RSS feed into the website any news regarding the organization or a certain advocacy, addition of photos and videos via flicker and YouTube, web registration of membership and events, a dynamic calendar of events, shopping portal for designer days boutique and etc. (See Appendix F and Recommendations Section for a suggested Timeline on when and how they should be implemented). In addition, Bonnie and Susan are yet not trained on using the blog feature of the website. Their proficiency in the CMS system is important as they will be major contributors to the new website.

Contribution of Outcomes to the Organization's Mission

The continuous introduction of new features to the website and new technologies for the organization will result in enhanced communication and reach to the public. With the introduction of a two-way communication channel in the website (poll, blog, discussion forum), the organization can increase responsiveness to queries of potential members and thus increase the likelihood of these converting them into a member. In addition, it helps to maintain relationship with current members and donors to encourage higher involvement and donation that will help in the organization's community efforts.

Sustainability

With the continuous implementation of new features and systems in different rollouts, it not only helps in sustaining the current IT capabilities of the staff in the organization. Instead, with new features introduced and new trainings to the staff on how to manage these web technologies, we will see an improvement in the staff's IT capabilities in the near future. Up till this point, the Marketing Consultant is the one that is most knowledgeable of using Joomla! and this knowledge has not been taught to the other staff. Therefore, if she is to leave tomorrow, the organization will be lost and not able to keep the new website going (although it is easier to find a replacement that knows about CMS than the old website).

New Vision of Technology

These positive and visible effects generated by these outcomes will provide further motivation for the organization to adopt and make use of available web technologies. Similar to the previous task, constant increase in membership and involvements in community efforts powered by the two-way communication nature of the website will further impress the board and the technology team of the power of technology and entice them to continue to look out for more technologies that may further enhance their communication and interaction of the stakeholders. The incorporation of Joomla! had spurred many ideas of how the website can be made more interactive to its members, although they have not yet been written into plans.

VI. RECOMMENDATIONS

A. Vision

The future of NCJW should be one that successfully attracts new and young blood into the organization, by continuously harnessing and enhancing the right technologies to complement its administration and effective communication with its members, community and the public at large. Effective communication further improves the organization's responsiveness to opportunities and service quality to its members and community, with a greater outreach to those who support and benefit from its mission.

The attainment and sustainability of the vision requires a continuous effort in the implementation, maintenance and investment in technology. Since the advent of information technology, its adoption by various industries has spurred changes ranging from operational efficiency to new business opportunities and even the transformation of the whole industry.

These goals are forward-looking of what the organization should do to prepare itself and its employees to embrace new technological innovations in the short term. They have to be re-evaluated periodically as technology, organization, and expectations of community and members change. In the long term, the organization should have visions of its future technological capabilities due to the dynamic nature of the environment.

The goals and the strategies to acheiving them are illustrated below:

Goal 1: Prepare the Organization for Technology — YEAR 1

- Create a Technology presence in the organization's overall plan
- Ensure successful implementation of Chosen CRM system
- Ensure successful implmentation and enhancement of new CMS powered website

Goal 2: Adopt Technology to Enhance Communication and Interaction — YEAR 2

- Integrate Website with CRM system
- Employ Skype IM and VoIP Call capabilities

Goal 3: Adopt Technology for Improved Marketing Outreach — YEAR 3

- Capitalize on mobile phone and SMS for communication
- Capitalize on e-commerce website or new online media for more publicity of the organization

B. Goal 1: To ensure a successful implementation of chosen technologies

As described by the Executive Director, NCJW's technological knowledge and capabilities are still in the primary level. Although the management is ready to embrace technology, major decisions regarding technology purchases are maintained by the board. Technology is never a focus or component in the organization's overall plans and strategies for its future. There was no IT budget, plan, or even control over IT before the consulting project (evident from the transition risks from Lisa and Scott back to the organization). The management should focus on building a strong case for technology, in order for the board to adopt it into the overall goals and strategies of the organization. This can be done by ensuring its implementation of selected CRM adoption strategy and Joomla CMS presents positive results within the first year of implementation, proving that the organization has successfully managed the potential risk brought forth by the IT responsibility transition task. With better information management and reporting capability, its fundraising potential is enhanced. After top management buy-in to the positive results, IT could then be adopted timely and successfully for the organization to respond to new opportunities.

In order for the organization's IT knowledge and capability to be sustainable, the organization must always be ready for new technologies, thus, this goal spans for the whole of the next 3 years.

Benefits and Justifications

As mentioned in the previous section, IT has brought forth many improvements over years for organizations in various industries. For NCJW, the successful adoption of IT will greatly improve its operational and program administration by eliminating data redundancy and inconsistency. Information update is done only once into a single database and retrieve easily from the same location. The following improvements will be observed:

1. Reduction in time taken for overall operation and program administration
2. Reduction in time taken to respond to board and management information needs
3. Improvement in data accuracy
4. The organization is less reliant on IT experts for normal technical incidents. Able to solve 2 in every 3 problems via documentation
5. Reduction in cost required to serve its donors and conduct its programs.
6. Improvement interaction and communication with members
7. Improvement in membership over the first year

Implementation Strategies

The achievement of this goal is dependent on how well the organization is able to continue the efforts initiated during the consulting engagement. It focuses on ensuring that the organization is successful in the revamping its website and implementing the selected CRM system, with subsequent technological planning by the technical committee, to prove the importance of IT (as illustrated in the figure above). The detail implementation steps for these strategies are presented in a timeline, together with the resources required at each stage.

Implementation Plan for Joomla powered CMS system and Salesforce or DonorPerfect CRM

Date	Tasks	Resources	Cost
Dec 2008	Salesforce Database: • Sign up for Trial to Salesforce Non-Profit CRM and obtain free license (fax 501c3 document) • Clean existing database and export them to Comma Separated Files (CSV). • Complete customizing data fields and workflow • Import data from CSV files to Salesforce CRM system • Test the new system in a parallel manner. Run and operate on both systems at the same time.	Bonnie (Internal) Cheryl (Internal) Jim (External) *or* External implementation vendor Salesforce user and training guides[1] Salesforce technical support Data and Process documentation produced in this project Bonnie (Internal) Cheryl (Internal) DonorPerfect data migrator (External) Data and Process documentation produced in this project	20 more work hours 30 more work hours 40 work hours in total Approx $3K Free Free Free 10 more work hours 20 more work hours Approx $3K Free
	DonorPerfect Database: • Provide customization request • Provide data from existing database • DonorPerfect will customize the database and help in data migration	Drue (Internal) Bonnie (Internal) Susan (Internal) Cheryl(Internal) Joomla documentation and discussion forum[2]	5 more work hours 5 more work hours 5 more work hours 5 more work hours Free
	Website: • Complete template customization and static information migration from existing website to new website with enhancing discussion board • Executive, Director and President and Office Manager trained on how to use discussion board		

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[1] Salesforce resources and the "help and documentation section" when you are logged in to the free trial of the actual system

Feb 2009	Database: • Complete data migration and testing from MS Access to Salesforce Non-Profit CRM or DonorPerfect	Bonnie (Internal) Cheryl (Internal) Jim (External)	10 more work hours 30 more work hours 20 work hours
	• On the system training on how to use the new system. May still want to run the old system and new system in parallel during the learning phase.	Salesforce user and training guides	Free
	• Document improvements in terms of time taken to complete tasks, redundancy reduction and occurrences of errors between old and new database system.	Salesforce technical support *Or* DonorPerfect training guides[3]	Free
	Website: • Debut of new website and closure of the existing website	Drue (Internal)	25 more work hours
	• Implement more features: Events Calendar, RSS Feed, linkage to Flicker and Youtube, online donations.	Joomla documentation and discussion forum	Free
May 2009	Database: • Complete switch from MS Access database to new CRM system	Cheryl (Internal) Jim (External)	8 more work hours 8 work hours
	• Create workflow documentation for the operating on the new system, to be added to the technical documentation.	Salesforce user and training guides	Free
		Salesforce technical support	Free
		DonorPerfect training guides[4]	Free
	Website: • Create workflow documentation for maintaining the new website, to be added to the technical documentation.	Drue (Internal)	10 more work hours
	• Constantly updates web content	Joomla documentation and discussion forum	Free
Nov 2009	Database: • Re-evaluate system for fit with the organization (decision to continue or switch) – more for Salesforce CRM	Cheryl (Internal) Jim (External)	6 more work hours 20 work hours
	• Implement add-on modules from AppExchange for events management and volunteer management (Salesforce CRM)	Technical Committee	2 work hours
		Documentation will come along with the module	Free

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[2] Joomla resources (Help, Forum, Documentation)
[3] Only available upon software purchase
[4] Only available upon software purchase

	Website:	Drue (Internal)	10 more work hours
	• Implement new features available, integrate with Facebook and MySpace.	Joomla documentation and discussion forum	Free

Implementation Plan for creating a Technological Conducive Organization

Date	Tasks	Resources	Cost

Dec 2008	• Complete all remaining pieces in the technical documentation
	   o User guides for technical resolution
	   o Technology related policies
	   o Future technology meetings
	• Present case to Board for including a IT Budget component in the annual Budget
		Technical Committee	5 work hours

Recurring Technology Committee meeting	• Review changes in Technical Documentation • Re-evaluate Technology (Once a Year) • Discuss possible/potential technological implementations • Decide on hardware/software purchases • Develop technological proposals to the board	Technical Committee	2 work hours per meeting
Recurring Technology Board meeting	• Review Technological performance and need for the organization • Adjust budget and approve purchases when necessary • Discuss the role of Technology in organizational strategy and plan	Board	0.5 work hours per meeting

Outcomes

Areas of impact	Outcome (Positive/Negative/Neutral)
Organization	Positive. o Improves technical knowledge of the organization o Improve cost efficiency of overall organizational processes o Although higher investments are need in technology (new server, third party service, new CRM system and etc). But returns on investments will be higher too
Programs	Positive. o Increase responsiveness to program needs o Improve program management
Staff	Positive. o Improves technical knowledge of the staffs o Always informed and updated with new technical opportunities o Increase efficiency of work processes o Reduce work redundancies o Higher motivation and value in work o Learning cost – work overtime o Job skill requirement for new hires will rise and therefore salary demand is expected to increase
Technical Environment	Positive. o Creates a more conducive environment for capitalizing on advantages

	and benefits brought forth by technology
	o Increase in value and importance in the organization, but more time and resources are needed to manage IT as it gains importance in the organization
Technology management	Positive.
	o Reduce dependency on a single individual's knowledge
	o All technology management information are documented and easily accessible
Technology planning	Positive
	o More pro-active technological planning and upgrades
Internal and External communications	Positive.
	o More targeted mailing efforts with better reporting capabilities
	o Increase interaction with stakeholders via the website
	o More dynamic content (more constant updates) on the website
Information Management	Positive.
	o Information will be more effectively and efficiently maintained in a single data store with lesser data inaccuracies, faster data entry and retrieval, and more comprehensive reporting capabilities.
	o Better data analysis capability

C. Goal 2: To adopt technology for enhancing the organization's ability to communicate and interact with its stakeholders

Once the organization is familiar and successful with the technologies that it adopted in the first year, it will have a larger capacity and readiness to adopt more available technologies that enables better interaction and communication with external stakeholders. This effort is likely to span over one year, from the 2nd year to the 3rd year based on its complexity.

The focus is to sustain the organization's interest and acceptance of IT by capitalizing on other technological innovations or products that are available, to further improve communication with its stakeholders. This includes better management of meetings and other communication efforts, and higher availability and accuracy of services and information.

Recommended improvements and technologies needed to fulfill the vision include integration of website with database, the adoption of Google Calendar or equivalent scheduling technologies, Skype Voice over IP and Instant Messaging Service.

With database and website integrated, data can flow to and fro from each platform. Thus, the organization is able to display real-time information on the website and allow real-time registration for membership and events. This availability and ease of performing various tasks without having to make a call or mail a response result in a higher encouragement for member, volunteers and donors to participate in events and advocacy efforts.

Next, scheduling software will be useful in establishing meeting date and time for the management and staff in the organization. The reason I choose Google Calendar is that it is free to get a Google account, compatible with Blackberry used by the President and Executive Director and is accessible via web connection to the internet.

Lastly, Skype allows for two benefits, firstly, instant messaging capabilities across the organization (e.g. between DDB and Anathan House). This allows for faster response to small queries and is very effective during times when the phone lines are busy. Secondly, staffs are able to make use of the voice conferencing or video call function to conduct online virtual meetings when they cannot be physically present for meetings

Benefits and Justifications
With these improvements, the benefits that will be observed are:
1. Increase in efficiency for organizing and facilitating meetings with more than 2 parties
2. Reduction of cancelling and reorganizing of meetings due to physical unavailability of participants
3. Increase in member and volunteer participation in events
4. Increase in membership registration

Implementation Strategies
The detail implementation steps for these strategies are presented in a timeline, together with the resources required at each stage. As more innovations are developed each day, there may be other tools that are more viable that the suggested ones in this recommendation, therefore, the tools should be re-evaluated at the time of implementation. Thus the software and implementation plan below may be revised due to changes in technology or technical capabilities or resources in the future.

Date	Tasks	Resources	Cost
Jan 2010	Web database Integration: (Salesforce) • Implementation Phase 1 • Implement events and online	Bonnie (Internal) Drue (Internal)	5 more work hour 20 more work hours

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[5] As it would be more difficult to integrate Joomla! with salesforce backend database due to the knowledge required on API and PHP programming, I suggest that the organization make use of Plone to develop its online forms as it has a direct integration with Salesforce, eliminating the need for any coding. The Joomla! site can then be linked to the Plone pages for member or events registration functions.

	membership registration and payment module using Plone[5] CMS App Extension	Salesforce API Salesforce AppExchange	Free Free
	Web database Integration (DonorPerfect CRM) • Implementation Phase 1 • Implement events and online membership registration and payment module using Joomla! forms extension • Daily import data into CRM via the import facility[6]	Bonnie (Internal) Drue (Internal) Joomla documentation and discussion forum	5 more work hour 20 more work hours Free
	Google Calendar • Register for Google mail account at Google.com • Enter schedule in Calendar • Sync Calendar with other staff • Sync Calendar with Smartphone (Blackberry)	Drue (Internal) or Jim (External) Calendar users Google Calendar user guides[7]	5 more work hours 5 work hours 2 more work hours Free
April 2008	Web database Integration: • Implementation Phase 2 • Implement online donation module. (e.g. for one-time, honorium and memorial donations) *** Same steps as phase 1 for either CMS	Bonnie (Internal) Drue (Internal) Salesforce API Salesforce AppExchange Joomla documentation and discussion forum	5 more work hour 20 more work hours Free Free Free
	Skype VoIP • Install Skype into user machines • Register using organization's email or personal email • Register a Skype number for receiving incoming calls • Call to other Skype users or to a land or mobile lines ** If the organization is still using Salesforce, there is an application extension for it to sync with members records.	Drue (Internal) or Jim (External) Skype user guides[8] Skype call to land line charges Salesforce App Exchange	4 more work hours 4 work hours 1 more work hours Free Charges varies for calling to different regions Free
August 2008	Web database Integration: • Implementation Phase 3 • Implement online event registration and payment and volunteer registration	Bonnie (Internal) Drue (Internal) Salesforce API Salesforce	5 more work hour 20 more work hours Free Free

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[6] DonorPerfect has a import utility that can import values from CSV files into the database. Therefore, registration recorded by Joomla! forms into the database can be exported to the CSV file and re-imported into DonorPerfect for update.
[7] Google Calendar User guides
[8] Skype help and user guides

	*** Same steps as phase 1	AppExchange Joomla documentation and discussion forum	Free

Outcomes

Areas of impact	Outcome (Positive/Negative/Neutral)
Organization	Positive. o A more tech savvy organization o Improve overall organizational image as a technologically pro-active organization o More time and effort is needed by the staff to implement these solutions, therefore, the organization may have to compensate them for the extra time taken.
Programs	Positive. o Increase responsiveness to events and advocacy efforts o Improve program management
Staff	Positive. o Increase efficiency of work processes o Reduce work redundancies
Technical Environment	Positive. o Increase in value and importance in the organization when benefits are explicit and visible o More sophisticated use of technology
Technology management	Neutral o More documentation and management efforts needed
Internal and External communications	Positive. o More real-time content (more constant updates) on the website o Higher frequency of intra-organizational communication
Information Management	Positive. o More efficiently data entry and retrieval by member, donor and volunteers. o Reduce data errors caused by illegibility and mistakes in data entry

D. Goal 3: To enhance outreach through technology

After the organization is able to better manage communication and thus a better relationship with its stakeholders, it will be time to increase the organization's presence in the public and enhance its interaction and outreach through the adoption of more or better technologies (there may be newer technologies at that point of time) to enhance involvement of these stakeholders.

With enhanced capability in constituent relationship management and external communication and interaction. The organization can embark on an awareness and membership increment journey, to attract more members, more involvement and therefore more services and benefits to the community.

The technology proposed in this section includes free Short-Messaging-System software (mobile messaging), Frontline SMS system that allows the organization to send out mobile messages to inform

or remind stakeholders of events, one or two days prior to events or even send out last minute deals for members who have signed up but has not attended the Designer Days Sales event to encourage their attendance. In addition, the organization currently makes use of direct mailing of invitation card for volunteers to help out during certain events. These cards needs to be mailed back, or the volunteer has to make a call to reply with their free timings. Replacing it with an easy SMS that the potential volunteers can reply to increases communication and coordination efficiency.

In addition, the use of online deals site like Godeals.com or Craigslist where the organization can post coupons and deals information online at these deal aggregator sites and link customers its own retail site or physical store front will help to increase publicity and thus public awareness of the organization.

Benefits and Justifications
With these improvements, the benefits that will be observed are:
1. Increase volunteer and members participation in events within one year of implementation
2. Increase in responses to events notification
3. Increase in customers visits to the DDB and Thriftique and the organization's online store within one year of implementation
4. Increase in revenue and donations

Implementation Strategies
The detail implementation steps for these strategies are presented in a timeline, together with the resources required at each stage.

Note: These software and online systems are only suggestions to the overall concept. At the 3rd year, there may be better software or online marketing medium available. The technology committee should keep a lookout for these new opportunities.

Thus, the software and implementation plan below may be revised due to changes in technology or technical capabilities or resources in the future.

Date	Tasks	Resources	Cost
Jan 2011	Online deals aggregator website: • Search for other similar websites • Re-evaluate Godeals.com If implementing: • Register for an account at Godeals.com • Post Coupons or deals advertisement and share them with the public • Create link to the deal pages for online deals	Drue (Internal) GoDeals.com	2 more work hours weekly
Feb 2011	Frontline SMS • Search for other similar software • Re-evaluate Frontline SMS If implementing: • Request for software • Install software	Drue (Internal) FrontlineSMS installation	6 work hours (initial) 2 more work hours weekly Free software and documentation

	Load mobile numbers • Send message and manage and respond to the return messages	documentation and user forum[9]	

Outcomes

Areas of impact	Outcome (Positive/Negative/Neutral)
Organization	Positive. o Greater market presence o More members, participations and donations
Programs	Positive. o Increase responsiveness to events and advocacy efforts o Improve program management
Technical Environment	Positive. o Increase in value and importance in the organization when benefits are explicit and visible o More sophisticated use of technology
Technology management	Neutral o More documentation and management efforts needed
Internal and External communications	Positive. o More pervasive communication and dissemination of information o Higher hit rate of campaigns (events, advocacy efforts)

D. About the Consultant

Name: Shirley Leow
Year: Graduate
Major: Masters in Information Systems Management
Career expectations: My hopes are to be a consultant, in line with the education that I have received thus far in my academic life. I aim to be able to help organizations to improve their practices and methodologies, especially in the area of Information Systems, to allow them to function in a more efficient way, helping them to better fulfill their purposes. If my clients come out with some added value after working with me, then that would be a personal goal achieved as well.

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[9] FrontlineSMS help and user documentation

E. References

National Council of Jewish Women, Pittsburgh Section
Website: www.ncjwpgh.org

Salesforce
Source: www.salesforcefoundation.org/resources
Resources for non-profits: Getting Started Guide, Free & Discounted Training
Source: "Help and Documentation" section when logged into free trial or actual system
Help and User Documentation

Joomla
Source: help.joomla.org
User Documentation, User Guide, Installation Manual
Source: community.joomla.org
Community page for Joomla: News, Events, Columns
Source: forum.joomla.org
Forum page for Joomla
Source: extensions.joomla.org
Extensions for download: Plugins, modules, etc.

Donor Perfect Training Guides
Source: provided by vendor after purchase of software

Google Calendar
Source: www.google.com/calendar
Tour of Google Calendar, User Guide
Source: www.docstoc.com/search/Google-Calendar
Documents on Using Google Calendar

Skype
Source: www.skype.com/help/guides
User Help Guides, Using Skype for different Operating Systems

FrontlineSMS
Source: www.frontlinesms.com
Introduction, Description of Product
Source: www.frontlinesms.com/what/product.php
Tour of product, User Guide
Source: frontlinesms.ning.com
User Forum and Discussion Board

Appendix A – Context Analysis of the Organization

Membership

Membership Type
- Yearly Renewal
- One time payment for lifetime

- Staff has little knowledge of MS Access query function and the concept of relational database
- Has to perform multiple simple queries together with manual processing to generate reports
- Unable to update database to record more member data
- Staff does not know how to link database or excel email to outlook
- Email address are separately stored in database, excel files and MS outlook
- Multiple updates of email address
- Member does not frequently update active address
- Missing data on how to determine if address is active
- Mail to inactive address and multiple addresses
- Board, Retail and volunteer data not linked with member data in database
- Data collection allows members to specify multiple mailing address
- Unable to identify if members also attends service/is a member of a board or is a volunteer
- Sending multiple newsletter or news information
- Inefficient data retrieval and potential for errors
- Missing Opportunity for more targeted communication
- Member did not get updates due to missing email updates
- Wastage of monetary resource
- The rest of the public are not informed of our activities and programs

Retail

Stores
- Thriftique
- Designer Days Boutique

- Manages organization's Website built on Dreamweaver
- Employees are a little more IT literate, but can only make information changes to Website
- CMS for managing communication with consignees and customers
- Independent Database to record consignment and sales information
- Sales information recorded in office's database
- Employees' IT knowledge limited to Internet connection to using emails
- Sales report and customer information sent to office by paper
- New requirements to Website for public communication not done

Mission
Strives for social justice by improving the quality of life for women, children, and families and by safeguarding individual rights and freedoms.

Social Services

Services
- Courtroom – 3 locations
- Book drive
- Pick a bag
- Silent witness domestic violence
- Suit yourself

Data
+ No. of families & individuals serviced
+ Vouchers and Gifts given

- Identity of clients not recorded
- No standard format for data storage
- Staff does not have sufficient knowledge on excel
- Data kept in different excel spreadsheet
- Figures has to be consolidated from different sheets for reporting
- Slow in generation of expense and activities report in real-time
- Inefficient data retrieval and potential for errors

Events

Current List of Events
- Designer days
- Meetings

- Has to perform multiple simple queries together with manual processing to generate reports
- Member visit to designer days not recorded in DD database
- Designer Days (DD) database records not linked with member records
- Staff has little knowledge of MS Access query function and the concept of relational database
- Events information only sent to existing members and customers
- Staffs manually distinguish member from non-member customers and create only visit record of non-members in DD database
- Same RSVP list has multiple copies for reporting to different parties
- Inefficient RSVP process
- No standard way of recording member attendance

Fundraising

Sources of Funding
- Membership dues
- Member contributions (Birthday, Death)
- Interests
- State grants
- Corporate donations

- Generated one-by-one, per member or donor, using MS words template and database information
- EOY Dues report to members
- Donors and honored individuals thanked for contribution by letter or card
- Staff has limited knowledge on report design and generation using MS/Access
- Different reports required for Board and government reporting
- Contributions/Donation data stored database and excel sheets

Appendix B – Work Plan

Task	Resources	Who?	Target Completion Date	15-Oct	22-Oct	31-Oct	5-Nov	12-Nov	19-Nov	26-Nov	3-Dec
Task 1: Assist Community Partner to develop IT Transition Plan	Internet, Bonnie, Cheryl, Lisa and Scott	Consultant + CP	5-Nov								
Research and Design Transition Plan and put them in a report format											
Identify format and important components of transition plan	Bonnie, Professor and Mentor	Consultant + CP	15-Oct	X							
Identify and document all Hardware, Software, Network and access, Server and Website related information.	Technology Team	Consultant + CP	3-Dec		X	X	X	X	X	X	X
Closure of Task											
Conduct a closure meeting with all stakeholders who will be involved in the transition to brief them about the document and strategy.	Susan, Bonnie, Cheryl, Lisa, Scott and new staff(s) involved	Consultant + CP	3-Dec								X
Task 2: Assist in Database Redesign and Replacement	Susan, Bonnie, Cheryl	Consultant + CP	26-Nov								
Determine if Organization needs to acquire a new database											
Create a checklist of all improvements and high level requirements that the database should posses	Cheryl	Consultant + Cheryl	15-Oct	X							
Assess current skills of staff using the system	Cheryl	Consultant + Cheryl	15-Oct	X							

Task	Resource	Responsible	Date						
Study current database system and determine if minor changes will be adequate to attain the requirements above (need access to a copy of the database)	Cheryl	Consultant + Cheryl	22-Oct	X					
Research on other solutions (buy and free third party solutions) and establish a total cost of ownership evaluation.	Cheryl	Consultant + Cheryl	31-Oct	X					
Select and implement solution									
If a build solution is chosen, determine areas to change and create a incremental delivery plan	Cheryl	Consultant + Cheryl	5-Nov	X	X	X			
If a free or buy decision is made, contact relevant sources to gather full details of chosen solution and map current business process to new solution	Internet, Cheryl	Consultant + Cheryl	5-Nov	X	X	X	X		
Either start changing or start exporting data into the new database system. Minor customization may be needed.	Cheryl	Consultant + Cheryl	19-Nov			X	X	X	
Training									
~~Demonstrate to staff new features of the improved/new database solution.~~	~~Cheryl~~	~~Consultant + Cheryl~~	~~19-Nov~~				X	X	
~~Staff to help document step by step user manual on how each business process is completed using the improved/new database and how to troubleshoot or find help topics on the database.~~	~~Cheryl~~	~~Consultant + Cheryl~~	~~19-Nov~~				X	X	

Task	Who	By whom	Date								
~~Staff will start to use the new database and perform different kinds of business requirements on it as a form of test.~~	~~Cheryl~~	~~Consultant + Cheryl~~	~~19-Nov~~			X	X			X	X
Closure of Task											
~~Add document to IT transition plan and identify future improvements to the database to add them into the technology plan~~	~~Cheryl~~	~~Consultant + Cheryl~~	~~26-Nov~~							X	X
Conduct a closure meeting with all stakeholders who will be involved in the transition to brief them about the document and strategy.	Susan, Bonnie, Cheryl, and new staff involved	Consultant + CP	3-Dec							X	X
Task 3: Assist in creating an easy to use and maintain website	Susan, Bonnie, Drue and new staff involved	Consultant + CP	3-Dec								
Select a suitable content management system									X		
Identify features and activities that will be performed on the new website	Drue	Consultant + Drue	31-Oct						X		

Task	Responsible		Date					
Identify and evaluate available CMS solutions	Internet and Drue	Consultant + Drue	5-Nov		X	X		
Draw a plan for implementation of the new website and identify necessary resources and timeline to complete it	Drue	Consultant + Drue	12-Nov			X	X	
Closure of Task								
Present plan to higher authority. Interim Director and President	Susan, Bonnie, Cheryl, and new staff involved	Consultant + CP	19-Nov				X	X
Add plan to technology plan	Drue	Consultant + Drue	19-Nov				X	X

* * Tasks that are ~~Canceled~~ are those that are not done based on change of plans stated in the report.

Appendix C – Outline of Technical Documentation

As most of the information in the technical documentation is organizational specific, I have decided to share the outline of the table of content in the documentation instead.

Table of Content – Technical Documentation

Appendix D – User Requirements for New Database System

These are a list of additional information, functions and reports that the current database does not capture or provide, that the user would like to see in the new database system or CRM system. This list was provided by the Office Manager and was used to evaluate against the different features of the different CRM systems available.

Additional Information to be recorded

> ➢ Add 'age' column for those who want to share
> ➢ Add field for 'deceased'. Status is 'Active', 'Deceased', 'Inactive' or 'Non-member'
> ➢ Add to contribution history the phrases 'in honor of', 'in memory of', and a place for description
> ➢ Dues can be annual or Life membership
> ➢ No use for occupation
> ➢ Have section of interests, as well as questionnaire
> ➢ 'End date' under committee does not work
> ➢ Have section on member participation

Functions and Reports

Member and Relationships:
Membership interest, relation and roles management with alerts when membership nears expiration

Volunteer Management:
Manage volunteering, scheduling and volunteer interests.

Target mailing:
Generate mailing label based on member roles and synchronized with MS outlook.
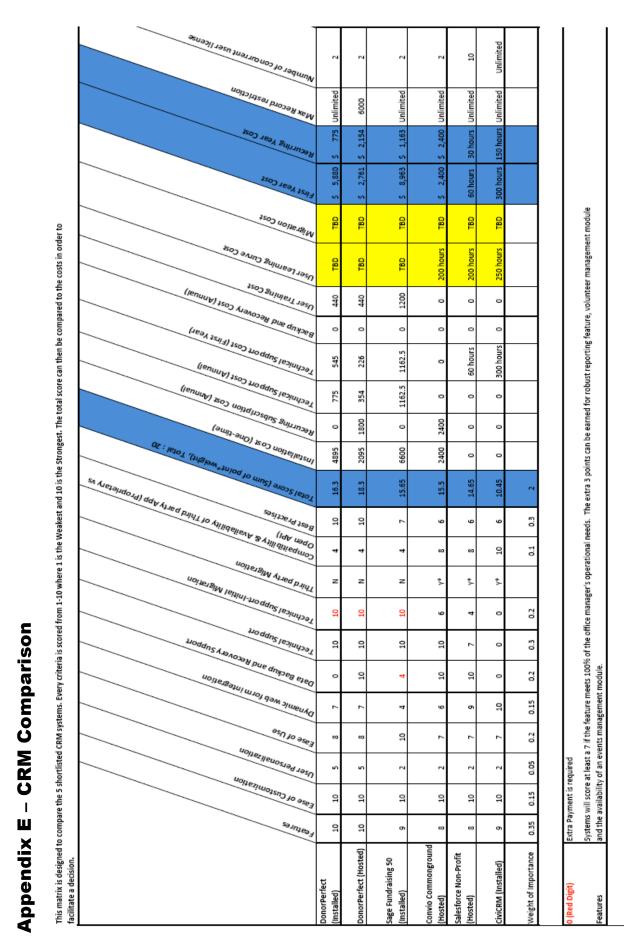
Events Management:
Planning and management of events, RSVP attendances, costs and payment.

Donations Processing:
Manage donation, gifts and pledges, honoriums and memorial giving.

Reporting and Analysis:

- Monthly listing of all CWR contributions (pulled from RBS and checklist)
- Last year but not this year report
- Monthly donations reports

Appendix E – CRM Comparison

This matrix is designed to compare the 5 shortlisted CRM systems. Every criteria is scored from 1-10 where 1 is the Weakest and 10 is the Strongest. The total score can then be compared to the costs in order to facilitate a decision.

	Features	Ease of Customization	User Personalization	Ease of Use	Dynamic web form integration	Data Backup and Recovery Support	Technical Support	Technical Support-Initial Migration	Third party Migration	Compatibility & Availability of Third party App (Proprietary) vs Open API	Best Practises	Total Score (Sum of point*weight), Total : 20	Installation Cost (One-time)	Recurring Subscription Cost (Annual)	Technical Support Cost (Annual)	Technical Support Cost (First Year)	Backup and Recovery Cost (annual)	User Training Cost	User Learning Curve Cost	Migration Cost	First Year Cost	Recurring Year Cost	Max Record restriction	Number of concurrent user license
DonorPerfect (Installed)	10	10	5	8	7	0	10	10	N	4	10	16.3	4895	0	775	545	0	440	TBD	TBD	$ 5,880	$ 775	Unlimited	2
DonorPerfect (Hosted)	10	10	5	8	7	10	10	10	N	4	10	18.3	2095	1800	354	226	0	440	TBD	TBD	$ 2,761	$ 2,154	6000	2
Sage Fundraising 50 (Installed)	9	10	2	10	4	4	10	10	N	4	7	15.65	6600	0	1162.5	1162.5	0	1200	TBD	TBD	$ 8,963	$ 1,163	Unlimited	2
Convio Commonground (Hosted)	8	10	2	7	6	10	10	6	Y*	8	6	15.5	2400	2400	0	0	0	0	200 hours	TBD	$ 2,400	$ 2,400	Unlimited	2
Salesforce Non-Profit (Hosted)	8	10	2	7	9	10	7	4	Y*	8	6	14.65	0	0	0	60 hours	0	0	200 hours	TBD	60 hours	30 hours	Unlimited	10
CiviCRM (Installed)	9	10	2	7	10	0	0	0	Y*	10	6	10.45	0	0	0	300 hours	0	0	250 hours	TBD	300 hours	150 hours	Unlimited	Unlimited
Weight of Importance	0.35	0.15	0.05	0.2	0.15	0.2	0.3	0.2		0.1	0.3	2												

0 (Red Digit) — Extra Payment is required

Features — Systems will score at least a 7 if the feature meets 100% of the office manager's operational needs. The extra 3 points can be earned for robust reporting feature, volunteer management module and the availability of an events management module.

Appendix F– Website Features

NCJW website – Feature Set

Rank 1: Static/Infrequently Updated Content:

    a. About the Organization (history and principles)
    b. Projects
    c. Board & Staff
    d. How to Join
    e. Location & Map
    f. Contact info
    g. Links to other websites (related agencies, businesses, etc.)
    h. Blog

Rank 2: Frequently Updated Content:

    a. News (short blurbs, press releases, links to media coverage)
    b. Events (list format, possibly include calendar tool as well)
    c. Store Sales & Promotions
    d. Archived Bulletins and Annual Reports (PDFs)
    e. Photo Gallery – post on Facebook/Flickr instead of NCJW we bsite, but we can still see on NCJW Website

Rank 3: Frequently Updated Content:

Interactive Elements:
a. Donate to NCJW
b. RSVP & purchase event tickets
c. Subscribe to mailing lists (via Constant Contact)
d. Volunteer for projects (Sign up Online)
e. Join + Payment

Rank 4: Frequently Updated Content:

Integration with External Components:
a. Facebook (NCJW & DDB)
b. Myspace (DDB)
c. Youtube (start a channel)
d. Flickr (start a pool or tag photos with ncjwpgh)
e. eBay auctions
f. Paypal donations
g. Text message to potential customers