Information Systems Management
Course 95-822

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Final Consulting Report

Carnegie Library of Pittsburgh

Gaurav Sharma

Carnegie Library of Pittsburgh
Executive Summary

Student Consultant, Gaurav Sharma
Community Partner, Trina Brown

I. Background Information

The Carnegie Library of Pittsburgh (CLP) is the region's premier public library. The library boasts of a wide array of books and rare collections. The organization provides a number of educational services to the community and has a membership base of over 200,000 people. The organization has a sophisticated technology infrastructure and an IT department solely dedicated to the maintaining the various information systems and the website and collecting and analyzing data for reporting purpose.

The organization's mission is:

> *A contemporary and vibrant institution, the Carnegie Library of Pittsburgh will be recognized as the region's best information resource. It will serve as an essential community anchor by promoting positive change and helping neighborhoods to flourish. By embracing the future while guarding tradition, the Carnegie Library of Pittsburgh will be a preferred destination for knowledge, entertainment and social interaction.*

II. Consulting Tasks

The consulting assignment involved interviewing key internal stakeholders to find out more about the problems plaguing the organization's data gathering and reporting processes. Through these interviews a number of problems were identified specifically:

a) A lack of deadlines for statistics which would eventually be used for reporting (both internal and external) purposes. This problem had caused data reporting to be delayed leading to larger problems (this problem was addressed within the scope of work).
b) A lack of a common understanding on statistics definitions resulting in interdepartmental confusion (this issue is delved in the final report's recommendations section).

Upon learning of these issues Ms. Trina Brown (the Community Partner (CP)) and I developed a number of policies specifically targeted towards the timeliness of data reporting (this is detailed in the outcomes section and Appendixes B and C).

III. Outcomes Analysis and Recommendations

A number of outcomes are noticeable from the tasks highlighted above. These include:

a) Increased efficiency in the data gathering and reporting processes.
b) Increased employee productivity since time is not wasted on definition and timing problems.

Last but not least, the report delves into a couple of recommendations that are directly tied to the data gathering and reporting processes. Firstly, the need and methodology to develop more policies geared towards these processes are delved into. The people needed to discuss the policies are pinpointed and some specific policies (specifically, statistics definitions and deadline consensus polices) are highlighted. Along with this the resources necessary are also touched upon. Finally, a scorecard mechanism is recommended to sustain these policy changes. The scorecard system is intranet based and will award points and incentives to departments which consistently meet the policies' goals. As with the first recommendation, the resources needed and some research behind the system is furnished.

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Gaurav is a graduate student studying Information Systems Management. He will be working as a Consultant this summer for Deloitte Consulting.

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I. About the Organization

Organization

The Carnegie Library of Pittsburgh (CLP) was founded in 1985 as a public trust organization. It currently boasts over 200 full time employees and a number of volunteers. The management team is composed of 20 individuals along with 9 directors. The IT department is composed of 8 employees and is managed by an IT director (Mike Nangia).

The organization's mission:

> *A contemporary and vibrant institution, the Carnegie Library of Pittsburgh will be recognized as the region's best information resource. It will serve as an essential community anchor by promoting positive change and helping neighborhoods to flourish. By embracing the future while guarding tradition, the Carnegie Library of Pittsburgh will be a preferred destination for knowledge, entertainment and social interaction.*

Facilities

The CLP main building is located in the heart of Oakland, the additional 19 locations are scattered across the Pittsburgh greater area. The main building is a huge Victorian complex that houses most departments along with a large collection of books. The IT department is located in basement of the building with cubicles for each employee. The area is extremely cramped and efforts are being made to relocate the department.

There is a secure server room that houses the organization's 7 servers. The servers are from Dell and recently the CLP acquired a new server rack.

Programs

The IT department is not directly involved in the library's many programs; however, the department does play a supporting role – through the organization's website. The website has a special "Summer Reading Section," which supports the library's summer program for younger children. Along with the Summer Reading Program, the IT department also supports the online Non-Profit Technical Assistance Directory which provides information on services for non-profits around the western Pennsylvania region.

Staff

The IT department is composed of 8 employees. The IT department hierarchy is presented in Appendix A. The three employees that are under my departmental sub-section (systems engineering) for this assignment are discussed below:

Mike Nangia – IT Director: Mike joined the IT Department 5 months ago and is in charge of directing the IT department both strategically and financially.

Trina Brown (CP) – Senior Manager (Systems Engineering): Trina Brown has been with the CLP for a number of years now. She has a graduate degree in Information Systems from the University of Pittsburgh and a degree in literature from Carnegie Mellon University. She is highly technically qualified, with extensive server and project management experience. Her main job functions include managing the systems engineering team and acting as a liaison between her team and upper management.

Buzz Handshue – Application Developer: Buzz recently joined the CLP IT department. He is highly technically oriented with considerable knowledge in databases and programming (especially in Visual Basic).

Technical Environment

The Carnegie Library of Pittsburgh has an extensive technical environment. The organization boasts 7 servers and additional servers are under the control of the EI Network[1]. The technical specifications of the servers are:

- Web Server: Microsoft Win 2K SP 4, Microsoft IIS 5, Macromedia Coldfusion
- Development Server: Microsoft Wink2k server SP4, Microsoft IIS 5, Macromedia Coldfusion 5; Dynamic Signage
- *Test Server:* Microsoft Win 2003 Server IIS 6; Macromedia Coldfusion MX; Microsoft SQL Server 2k SP3
- Data Mining and Web Data Server: Microsoft Win2k Server SP4; Microsoft SQL Server 2k SP3
- EIN Data Server: Microsoft Win 2k server SP4; Microsoft SQL Server 2k SP3
- EI Dynamic Signage: Microsoft Win2k Server SP4, Microsoft IIS 5, Macromedia ColdFusion MX, Microsoft SQL Server 2k SP3

Technology Management

The servers are maintained by the IT team, though they are stretched thin. The CLP recently bought a data mining software package (COGNOS); however, due to the lack of

[1] The EI Network is one of the CLP's sister organizations. Created around ten years ago, the EI Network provides hardware and help desk solutions to the CLP and various other libraries around the Pittsburgh Greater region. Most of the computers at the CLP are owned and maintained by the EI Network.

staff it took a long time to startup, though it is operational at this point in time. The EI Network manages their own servers, which at times can be cumbersome since the CLP is dependant on them for minor tasks on their servers and computers. This inefficiency is difficult to resolve due to the rigid structure of the organization. The CLP backs up their data each day which are then kept in a secure cabinet.

Additionally, since the IT team was created five years ago and due to the fast pace of work, proper documentation of the systems were not in place. This lack of documentation was a large technology management problem since there were times where the IT staff had to "reinvent the wheel." This is currently being resolved by the IT department as specified in the system's engineering sub-department new strategic plan (this plan is discussed below in the "Technology Planning" section).

Technology Planning

The IT department gets its strategic vision from the director and senior management. The current drive is to make the CLP a highly technically oriented library through the use of well designed information systems. The strategic vision is reviewed yearly. The board allocates the budget (which varies yearly) for the IT department based on this strategic vision. It is important to note that the IT department has considerable budgetary constraints due to library wide budget cuts. A new strategic vision for the systems engineering sub-department has recently been developed with a focus on reengineering most of the data gathering processes, which includes redesigning the systems and properly documenting the process.

Internal and External Communications

Most of the internal communications in the organization are handled via email or phone – this maybe cumbersome since not all the employees of the library have email accounts. Besides these internal communications the library has a website to bolster visibility externally.

Information Management

This section is critical to the organization. The IT department has a vision to be able to mine relevant data to aid the organization. Prior to my consulting assignment the state of the organization's information was in disarray; however, due to the previously mentioned systems-engineering strategic plan and the efforts of the IT department, the organization's capacity to mine data has increased.

The CLP needs to gather a lot of data in order to furnish the State and various other stakeholders with the necessary metrics. The data includes (this list is not exhaustive): visitor counts, computer usage, and circulation metrics. The CLP has set up a number of processes to collect this data; however, the processes are often ineffective or highly burdensome due to technological issues (for example, the people counter hardware does not account for daylight savings time thus skewing the data). The new strategic plan is

remedying this, however. Additionally, the various data needs of each department are being streamlined through increased communication among departments. One of the main problems that still remains; however, is the discrepancies between the data that the CLP gathers and that of its sister organization, the EINetwork.

Business Systems

The IT department does not manage any business systems. The systems are scattered around the organization and its sister entities (like the Carnegie Museums). The reason for this is due to the fact that these systems are expensive and it makes sense in sharing them between related organizations.

II. Scope of Work

There is a lot of work to be done at the Carnegie Library of Pittsburgh; however, due to the short timeframe of our consulting arrangements my CP and I identified one particular project that would provide the most value to the organization and its mission. This project is detailed below.

Internal Stakeholder Data Needs Project:

Problem Statement

The CLP has a large amount of data and data needs. The organization has to keep data in a number of different systems for reporting and developing metrics through which the State and other organizations use in order to determine the funding and resources the CLP can get from them. Each department of the CLP is concerned about a specific set of data and statistics which affects them directly.

The IT department has the responsibility of providing the data that is needed to each stakeholder (CLP's numerous departments). However, a problem arose when the understaffed IT department had to cater to the many stakeholders. This problem was exacerbated by the fact that there were no clear guidelines/policies that stated what data each stakeholder required and when they required it. Therefore, it was imperative to evaluate each stakeholder's data needs and communicate this to the IT department in order to streamline the data collection processes.

This problem directly impacted the organization's mission. Since this project involved data reporting to various entities and stakeholders it had both a monetary and goodwill impact to the organization.

Approach

- Identification of key internal stakeholders: My CP and I analyzed the situation and identified the key stakeholders for this project.

- Identification of key external reporting entities: Each internal stakeholder requires data in order to report them to external entities that control the organization's funding. My CP and I explored these entities through dialogs with concerned internal stakeholders.
- Interview internal stakeholders: By interviewing the internal stakeholders we got a better idea of their data needs. A general questionnaire was developed and my CP and I used the questionnaire as a general rubric for the interviews. A sample questionnaire can be found below in Appendix B.
- Evaluation of data gathering processes: By understanding the data gathering processes we understood the bottlenecks in the data gathering processes.
- Development of data collection and reporting policies: Having evaluated the data needs and the gathering processes, it was important to develop policies in order to provide the stakeholders with the data they require in a timely manner (statistic reporting deadline policies were developed during this consulting assignment).

Impacts and Expected Outcomes

This project has a wide impact on the IT department and the organization as a whole. The project will impact the way data is collected by the IT department (it will give the department a clear definition of the organization's data needs). It will also give them a clear view of all that data that is needed, thus allowing them to concentrate on the important data and metrics. Additionally, this project will help give the IT department a strategic focus on data collection and reporting. It will also send a positive signal that the IT department is concerned about the various stakeholders and that steps are being taken to improve the data collection processes. The expected outcome of this project is a strategic analysis of the organization's data needs and processes. The outcome of identifying the key internal stakeholders will be the acknowledgement that these people are important to the IT department. Identifying the external reporting entities will highlight what data is required and for whom. This will have a large outcome since external stakeholder's guide the progress of the organization. Interviewing the stakeholder's will give us a clear picture of what they expect and what data they need. Having identified the data needs it is important to examine the data gathering processes in order to find problems. The outcome of this will be a more streamlined data collection process. Finally, developing a data collection strategy will have a wide impact through out the organization since it will make it more efficient to collect data and will improve the accuracy of reporting.

This task will impact the organization as mentioned earlier (by streamlining data gathering and processes tasks). This task will also have a large impact on the organization's information management, since it will give it a direction and will also clear any bottlenecks that are present. Finally, this task will have a big impact on the organization's internal and external communications (since the consulting assignment will highlight the internal stakeholder's needs and will streamline the processes it will make communication more objective). Internally, it will streamline each department's needs while externally it will enable the organization to efficiently report the key metric to the various external entities.

III. Outcomes

The task I had chosen was to analyze the internal bureaucratic aspects of the data gathering processes of the Carnegie Library of Pittsburgh. The task had a few clear outcomes, which are be analyzed in detail below (please have refer to the Appendix B for a more detailed breakdown of these outcomes):

- The identification of key internal stakeholders.
- The identification of key external reporting entities.
- Interview internal stakeholders.
- The evaluation of data gathering processes.

Outcomes from the Task

The outcomes include a set of documents I created along with my CP from various internal stakeholders (these can be found in the Appendixes B – L) that states their data requirements (these are circulation, registration, materials, PC utilization, trends, and visitation statistics (please have a look at Appendix B and C for a detailed overview of these) and suggestions to improve the current processes that are in place. Additionally, other outcomes included deadlines creation and enforcement guidelines (please have a look at the Appendix B and C for a detailed overview of these) for certain statistics that were needed for reporting purposes and policy changes to accommodate the suggestions mentioned earlier and the deadlines (for example, the deadline for the people counter data should be on the 21st for each month and the deadline for circulation data should be at the end of the fiscal year). Since this was a time of great change in the Carnegie Library, my consulting task had pinpointed areas for data gathering process improvements, which fit in well with the other changes (like the installation of the new data mining software (COGNOS) and reporting systems). This coincidental timing had the outcome of decreasing the averseness to change in the organization (for example, since the organization is already changing their people counter processes the policies and deadlines that I proposed did not receive much resistance). My CP had accepted these deadline policies and had accepted the implementation strategy outlined in the recommendations section (which can be found next in this report).

Despite these concrete outcomes, the *non-measurable* (or those that have not been measured yet) outcomes included increased efficiency in gathering and reporting the statistics and decreased confusion on what was to be done to gather and clean these statistics.

The Organization Prior to my Consulting Assignment

The state of the organization's data gathering processes prior to my appointment to this organization were in a state flux (since the IT department was reorganizing all their data). This change led to an increasing number of problems (ie. people counter data is faulty

and painful to clean due to the inherent flaw in the people counter devices) being detected which led to increasing amounts of debates in what had to be done to make the organization's data gathering processes more efficient. Prior to this push towards efficiency each department had their own deadlines and their own prerogatives in gathering statistics (for example, each department set their own deadline for statistics which did not match with the other departments', this created great confusion and decreased the validity of most statistics (since they kept on changing by department)). Additionally, the EI Network developed their own statistics which often contradicted with the Carnegie Library's results. My consulting task had allowed the organization to understand the various bureaucratic flaws in their data gathering process and had allowed them to set deadlines and that allowed them to align the statistics they gather to specific departmental goals (for example, through this entire process my CP and I learned that most departments' definitions of certain statistics differ). This understanding has been fostered through the analysis of the interviews that my CP and I collected. Upon delving into the interview transcripts my CP and I realized that there were two basic policy problems: a) there are no fixed deadlines for statistics reports, and b) that the definitions of key statistics differ from department to department.

Evidence

As I had mentioned above there were a number of intangible outcomes that could not be observed (or had not been measured) during the consulting period. The most obvious of these were "increased efficiency" and "decreased infighting." By streamlining the data gathering processes the efficiency of statistics gathering was increased. This could have been measured (ie. suggesting capacity "yet to be reached") through quantifiable decreases in the time it took in getting certain statistics ready for reporting. Decreasing infighting is very hard to measure and thus I did not feel it would be possible to quantify it. Additionally, the concrete evidence of outcomes that I had not observed besides the ones mentioned above are: 1) evidence towards decreased aversion to change, and 2) evidence suggesting overall increased efficiency through policy changes (only time will give my CP and I evidence of the effectiveness of these policy changes).

Increased Organizational Capacity

The Carnegie Library's mission is to become the leading information source in the region. The outcomes I delved into above increased the organization's ability to meet its mission through its ability to provide key statistics and data to stakeholders (internal and external) in a timely and consistent manner. Since there was evidence (though not measurable) suggesting increased efficiency in data gathering processes this means that the Carnegie Library is able to gain more funding and resources to provide more services to the community.

Sustainability and Risks

Since one of my key recommendations (please have a look at the following section of this report for the recommendations) is a number of changes in policy, it can be sustainable in

the next six to eighteen months. However, for it to be sustained; there will need to be a constant and conscious effort on the part of my CP and the IT department to reinforce these policy changes. My CP has to set up an incentive system for those who follow and those who do not follow these policies. The risks that the outcome will not be sustainable are that the organization might not reinforce these policies adequately. Another risk is that the organization might view these policies as a burden and would revert to the old way of doing things. Additionally, since the Carnegie Library is going through so much change currently these policies might be ignored to concentrate on more pressing issues.

New Organizational Vision

There has not been a significant change in vision due to my consulting assignment especially when considering the sheer size and complexity of the Carnegie Library.

IV. Recommendations

A. Vision

Technology supports the administration of the Carnegie Library such that internal and external stakeholders have the information they need in a timely and accurate manner. The Carnegie Library's IT department (specifically the department's Systems Engineering sub-department) is solely dedicated to the computing and data needs of the organization. The organization's (and more specifically the IT department's) vision for technology rests on both sustaining current and implementing new innovative technologies. Through this vision the organization will be able to boast of a highly efficient technological infrastructure supporting the organization's overall mission. Additionally, through the continued sustainability of existing technologies and the implementation of new technologies the Carnegie Library will be able to streamline previously cumbersome data gathering and cleaning processes resulting in an increase in the organization's reporting accuracy and efficiency.

B. Goals

In order for the Carnegie Library to achieve the vision stipulated above there are a number of goals (milestones) that have to be fulfilled:

- Develop policy changes to account for the "human" discrepancies in data gathering
- Implement these policy changes by building incentive systems to motivate employees to follow them

C. Strategies

Goal 1: Develop policy changes to account for the "human" discrepancies in data gathering

a. The Carnegie Library is currently reevaluating their data gathering processes with the goal of redesigning them in order to improve the efficiency of the data gathering and reporting systems. However, one of the main aspects of the problems with the entire data gathering process is that different people interpret the data differently and respond to requests for data in a manner that reflects departmental priorities instead of organizational goals. It is important to design a number of policies that would help the organization both interpret and respond to requests for data in a manner that suits the organization as a whole. For example, circulation data analysis has to be completed by the end of the fiscal year since a number of external stakeholders (i.e. the state and federal government) depend on the integrity of this data to allocate funds for the library. Some of these policies include:
    a. Setting concrete deadlines for required statistics (circulation data, people counters, and computer use). This is similar to the outcomes I have highlighted earlier; however, it differs in that now the organization will have internal consensus on these deadlines rather than having an "outside" party (the student consultant, myself) introduce them
    b. Setting specific procedures for gathering statistics (like when the data from the people counters need to be downloaded and how the data should be cleaned)

b. Designing policies to determine common definitions for statistical and data oriented terms and deadlines for statistical reports will increase the efficiency of the organization. The increase in efficiency can be quantified in the following manner. Since a lot of time is spent on cleaning the data and then re-cleaning them again due to mistakes and definition issues, employees spend a lot of time redoing work. Once the data processes have been reengineered and the policies have been setup the ROI per employee (up to 20%[2]) would increase since they will have more time to work on other pressing organizational matters.

c. The approach that has to be taken to successfully design a set of data gathering policies involve the following steps:

    a. Ask each department to specify deadlines for each of the statistics reports they require (this has already been done by myself (please see Appendix C for an outline of these policies)
    b. Ask each department for specific definitions for the metrics that they use
    c. Evaluate the deadlines and definitions and rank them in order of organizational priority (for example, meeting funding data requirements are more important than furnishing data requirements for internal needs)
    d. Make policy changes to reflecting these deadlines and definitions

[2] According to Gary Hackbarth, Professor of Management Information Systems at Iowa State University. Prof. Hackbarth has extensive experience with bureaucratic issues when dealing with data gathering processes.

d. The following outcomes are to be expected from designing statistics gathering policies:

    a. Organizationally, the increased efficiency resulting from the streamlined data processes will result in increased productivity which would add to each employee's ROI (in that the employee's can use their time better thus are able to produce more innovative work, as mentioned above productivity can increase up to 20%). For example, it currently takes over a day to clean and analyze the people counter data; however, after these policies have been set the need to clean the data to meet every departments definition will be eliminated since there will only be one definition for the entire organization.
    b. Since the entire set of data gathering processes are being revamped the policies will remove any communication lapses that would otherwise render the reengineering process a failure. These policies along with the revampment of the statistics gathering technological backbone (people counting devices, databases, etc) will allow for the organization to better manage its investment in these technologies. This will contribute the increase in ROI that will result from the entire reengineering process.
    c. Lastly, the staff of the Carnegie Library will be freed of the burden of having to re-clean data repeatedly; this will allow them to concentrate on other essential organizational tasks.

e. Resources

    a. Internal resources
        i. To develop a policy that is targeted at data gathering processes will require Trina Brown and Mike Nangia to sit down with the heads of all data intensive departments. Together they will evaluate each department's needs and set deadlines and definitions through organizational consensus.
    b. External resources
        i. The deadlines and reporting policies for reports from external auditors and stakeholders will be necessary to develop a successful set of policies.
    c. Budget
        i. This recommendation will not require any capital; however, it does require considerable time and energy from within the organization, which might be a problem considering the library's busy schedule.

Goal 2: Implement these policy changes by building incentive systems to motivate employees to follow them.

a. This goal is closely tied to the first goal specified above. This recommendation focuses on the enforcement of the policies suggested earlier in this document. For any policy to be successful there has to be an incentive system promoting

compliance to the policy. This recommendation focuses on the development of an incentive system for the policies stated above.

b. The increased efficiency specified and the associated increase on employee ROI that result from the placement of data gathering policies would not be feasible if the policies are not enforced. Additionally, through the enforcement of these policies the data gathering reengineering process will not be as successful.

c. The following approach has to be taken to establish an incentive system to enforce the suggested policy changes:
    a. Establish a section on the organization's intranet that monitors departmental compliance to the policies (on the Intranet specify the policies and next to them have the number of days a certain report is late and use this scorecard to enforce these policies).
    b. Make the policies and deadlines visible. A section on the organization's intranet needs to be set up to explain policies and the reasons behind them. Once the employees understand these they will be more motivated to adhere to the policies. In case employees do not follow these policies normal boss-employee meetings should be set up to understand why they were not followed and what steps need to be taken to sustain the policies' goals.

d. The outcomes for this recommendation are the same as the ones for the policy recommendation. The following are unique to this suggestion:
    a. This incentive system will increase the efficiency of both the data gathering reengineering process and of the staff involved with data gathering and cleaning through establishing the sustainability of the policies specified above.

e. Resources
    a. Internal resources:
        i. To develop an incentive system that is targeted at data gathering policies will require Trina Brown and Mike Nangia to sit down with the heads of all data intensive departments. Together they will agree on the recommended incentive system or modify it to cater to their specific needs.
        ii. Carnegie Library intranet: This will be necessary since a specific section on its main interface will be devoted to policy compliance and responsibility.
    b. External resources:
        i. Dr. Pei-yu Chen, Professor at the Tepper School of Business, Carnegie Mellon University. Dr. Chen is highly knowledgeable in IT investments and organizational design (of which incentive systems are an important component). She can be contacted at: pychen@andrew.cmu.edu. (I have already asked for her permission to be contacted for this). She will be able to give a

good idea on how scorecard systems work and how they can be implemented successfully.

ii. Dr. David Krackhardt, Professor of Organizations, Heinz School of Public Policy and Management , Carnegie Mellon University. Dr. Krackhardt is one of the leadering experts in organizational design. He can be contacted at: krack@andrew.cmu.edu. (I have already asked for her permission to be contacted for this)

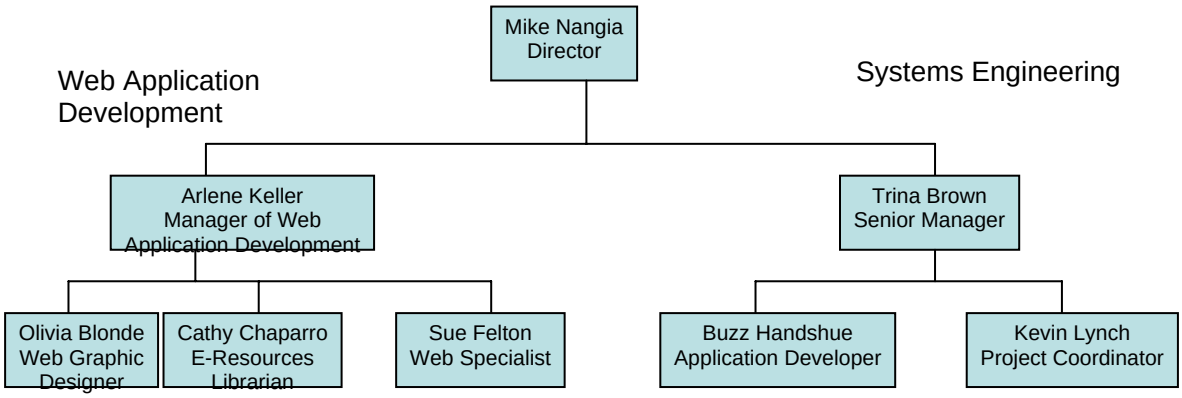
c. Budget

i. This recommendation will not require any capital; however, it does require staff time to implement the score card system.

V. About the Consultant

Gaurav Sharma is currently pursuing his Master's degree in Information Systems Management at Carnegie Mellon University. Gaurav was born in the US to East Indian parents but was raised around the world (Brazil, Laos, India, Costa Rica, Italy, Nepal, Burma, and Egypt). Gaurav is interested in technology consulting in the private sector as a career. This summer he will be working for Deloitte Consulting as a consultant.

Appendix A: IT Department Hierarchy



Appendix B: Outcomes of Consulting Tasks

This document outlines the major outcomes of the consulting task identified under the outcomes section of the report.

The identification of key internal stakeholders:

This outcome included a list of key internal stakeholders that were identified based on availability, organizational role, and their department's organizational impact. My CP and I identified the following stakeholders to interview:

- Gladys Maharam, Deputy Director
- Jane Dayton, Assistant Director
- Karlyn Voss, Assistant Director, Strategy and Planning
- Michele Atkins, Executive Director, Foundation Office
- Pat Cunningham, Director of Finance and Administration
- Tina LaMark, Director of Technical Services
- Mike Nangia, Director of Information Technology
- Sheila Jackson, Assistant Director, Main Library Services
- Mary Monaghan, Manager, Neighborhood Libraries

The identification of key external reporting entities:

This outcome included a list of key external stakeholders that the internal stakeholders identified above report to. These stakeholders were identified through the interviewing process. The following external stakeholders were identified:

- Department of Education
- Commonwealth Libraries
- Public Library Association
- American Library Journal
- Library members
- Auditors
- Regional Assets District
- Federal Government
- State Government

Interview internal stakeholders:

The internal stakeholders listed above were interviewed with the intention of finding out their data needs and when and to whom these statistics have to be reported. A sample interview is provided below (please have a look at appendixes D – L for the interview transcripts):

- What data do you need?
- When do you need the data?
- Who is this data for?
- Do you understand how the data is gathered?
- How to do you view the data gathering process?
- What changes do you think should be implemented?
- Do you have any suggestions in making the data gathering process better?
- How is this data reported?
- How can we make the reporting process more effective?
- Who do these reports go to?

The evaluation of data gathering processes:

After the interviews were conducted the information gathered from the key internal stakeholders was analyzed with the purpose of developing deadline policies so that the timeliness of data reporting is improved (the timeliness or the lack of statistics reports was one main problems identified through the interviewing process). A brief outline of the deadline policies have been furnished in appendix B.

Appendix C: Deadline Policy Outline

Overview

The Carnegie Library is an intricate organization with a sophisticated reporting hierarchy and an equally complex set of data requirements for these reporting purposes. The organization has been facing problems with meeting reporting statistics deadlines and this in turn has caused internal problems, which include blaming responsible parties and changing statistics when they have already been reported to the external authorities. This is a big problem since it creates skepticism within the organization about the validity of the collected data and breeds hostility between departments. The purpose of this document is to outline a policy aimed at standardizing data gathering deadlines so that these problems are eliminated. This document is outlined in the following manner: a) the required data and statistics are identified and b) deadlines for these statistics are identified.

Required Data and Statistics

Through the process of interviewing key internal stakeholders a number of data items and statistics have been identified. Though this list is not comprehensive it highlights the key statistics that need concrete deadlines:

- Visitor Counts
- Circulation Data
- Trends Data
- Registration Data
- Materials Reports
- PC Utilization

Deadlines

Visitor Counts: Monthly (end of the month), cumulative statistics needed at end of the fiscal year (which shifts depending on outside stakeholder prerogatives); some departments need these on an ad hoc basis

- Monthly Deadline: Last Friday of every month
- End of year Deadline: March 31st (or depending on state and federal reporting deadlines)
- Ad hoc basis: The most recent data should be available on the organization's intranet 3 days after the data has been collected and cleaned

Circulation Data: Needed daily on an ad hoc basis; needed cumulatively at the end of the fiscal year

- End of year Deadline: March 31st (or depending on state and federal reporting deadlines)
- Ad hoc basis: The most recent data should be available on the organization's intranet 3 days after the data has been collected and cleaned

Trends Data: Needed on an ad hoc basis and also when funding proposals are made

- Ad hoc basis: The most recent data should be available on the organization's intranet 3 days after the data has been collected and cleaned
- Funding proposal deadlines: The data should be ready a week prior to the proposal's deadline

Registration Data: Needed monthly

- Monthly Deadline: Last Friday of every month

Materials Reports: Ad hoc basis

- The most recent data should be available on the organization's intranet 3 days after the data has been collected and cleaned

PC Utilization: Needs to coincide with the EI Network's deadlines. These statistics are also needed at the end of the month.

- EI Network deadlines: a channel of communication has to be opened with the EI Network to determine the deadline
- Monthly Deadline: Last Friday of every month

Appendix D: Interview Transcript (Jane Dayton)

What data do you need?
-several metrics, PC utilization, people counts, trends outside the library (VOIP, wireless, etc), looks at software development trends (analyze products)

When do you need the data?
-monthly basis
-trying to increase to every 15 mins stats.
-power should go back to department heads

Who is this data for?
-internally: budgeting purposes
-externally: for grants
-for funding raising as well

Do you understand how the data is gathered?
-yes, I understand everything except the technical details

How to do you view the data gathering process?
-state of flux
-lots of manual stuff, some data automation, goal to make it all automated, webpage stats, make data cubes out of these

What changes do you think should be implemented?
-building a core department (growing department)
-industry standards

Do you have any suggestions in making the data gathering process better?
-people counter: already a productivity gain
-IT department can do other stuff
-raises the level of analysis
-looking at data mining

How is this data reported?
-internal/external

How can we make the reporting process more effective?
-document first and then automate

Who do these reports go to?
-this has been highlighted above

Appendix E: Interview Transcript (Gladys Maharam)

What data do you need?
-Varies.
-Interested in core data (visitor counts, circ, size of collection, esp. financial data and their relationships with other data).
-HR data (lots) → electronically, not always in format (HR department)… HR has their own system (they make it fancy); not consistent assumptions

When do you need the data?
-Through the year. Statistics have their own deadlines by external stakeholders.

Who is this data for?
-Commonwealth libraries (then they send it to Dept. of Education)
-Public Library data service (sponsored by Public Library association)
-American Library Association
-Surveys (American Library Journal, etc)
-Allen County public library salary survey (need data for this)

Do you understand how the data is gathered?
-HR → no; Carnegie Library does not have access to HRIS system; CLP is separating from Museum system; just wants access to data
-Secretary has been doing it (should interview her)
-Just accepts what is given (unless something is blatantly off)

How to do you view the data gathering process?
-NEED TO SET A DEADLINE (then move on)
Same Data keeps changing

What changes do you think should be implemented?
-Issues start at the beginning where it is collected (data enterers need to understand what they are doing)

-Understands that there will be errors, etc
-Extrapolation → when its fine and when it is not (BIG ISSUE) → circulation desk for eg. they need to understand what the data means, its not busy work but there is a reason for this. Its important for librarians as well.
-Need to prioritize data; need to balance the data needs

Do you have any suggestions in making the data gathering process better?
-Need to take time and sit with the person who data mines so she can become more imaginative.
-Need to create a sheet of paper with the statistics message → like a manual

How is this data reported?

-Common Wealth Library → goes to Allegeny Staff → goes to district consultant → State Public library data service (it goes to them and that is it)

How can we make the reporting process more effective?
-One stop shopping (need a unified approach)
-Public wants to know data (like how many items they have, etc)
-Need to have data for the public on the web or printed (would be more efficient)
-Does not know the possibilities for data!
-Need to have charts and visual representations of the data

Appendix F: Interview Transcript (Karlyn Voss)

What data do you need?
-data about branch libraries and trends over time
-likes to compare and contrast branches
-who is using the branch (demographically, zip codes, census tract, etc)

When do you need the data?
-as capital project get started (early stages of looking at priorities for capital improvements)
-year end in a timely manner
-ad hoc information

Who is this data for?
-me, and team who work on capital projects
-report form for the director
-purpose for decision making

Do you understand how the data is gathered?
-yes, comprehensive level (all they work)
-knows about accuracy
-frustrated that they switched to a different system

How to do you view the data gathering process?
-glad someone else is responsible for it
-timelyness improved

What changes do you think should be implemented? Do you have any suggestions in making the data gathering process better?
-no sharing of data (have to have a central place)
-should have all files as PDF
-no central place to park a document with versioning information
-limit access to a place, password protect
-definitions have to set for internal and external use (and keep centrally the definitions)
-nebulous definitions → need to be corrected and enforced
-forms online are a big hassle

How is this data reported?
-not reported
-used for her purpose (ad hoc)
-VERSIONING CONTROL

How can we make the reporting process more effective?
-not really much into reports anymore
-she wants to see some reports (keep them centrally)
-feels out of loop

Appendix G: Interview Transcript (Michele Atkins)

What data do you need?
-library specific: any data that is used by the CLP to funders for foundation proposals (eg. circ figures) → there has to be some interpretation of data
-216,000 names in DB of cardholders → needs email, phone, etc to target as donor prospects; demographic info.
-trends→ to view changes, etc
-marketing → are there library usage trends that are different for donor plus member vs. normal card users?
-who are renewing cards

When do you need the data?
-typically, when you know when to ask for it
-campaign runs
-twice a year for 216,000 cardholders (summer and fall)

Who is this data for?
-90% internal
-external when working with a vendor

Do you understand how the data is gathered?
-yes, overview
-doesn't care about granularity

How to do you view the data gathering process?
-seems to be mystical, cumbersome, missteps have been taken
-take data with a grain of salt

What changes do you think should be implemented?
-would like to get to a point where we can establish: what we want to know and regularly and consistently report that through out the system
-so data has to stay consistent
-definitions (define data and statistics)
-how do we all agree to get that information
-and say where to get it (once and for all)

Do you have any suggestions in making the data gathering process better?
-No not as yet

How is this data reported?
-intranet
-former proposals
-driven by funders
-sometimes have to clean data for donors

How can we make the reporting process more effective?
-definitions have to be set, etc

Appendix H: Interview Transcript (Tina LaMark)

What data do you need?
-supervises technical services
-most data comes out of III system & EI
-Item collection stats. (from III usually)
-lending/ acquisitions and funding accounting activities
-activity based (volume of something) eg. shipping → still a lot of it manual
-collection development (part of acquisitions)
-preservation data
-III problems → everything is connected to bibliographic records so cross of data is very hard
-no bridge between the purchase and circulation data
-collection statistics are hard to communicate → bar code problems (some items don't have some and that causes a lot of problems)

When do you need the data?
-usually year end (fiscal year end)
-some cases monthly data is also relevant

Who is this data for?
-back office area
-internal people, administration
-state as well sometimes

Do you understand how the data is gathered?
-yes, generally
-databases themselves gather data (???)
-different tools
-*create lists* on one person has access to it
-doesn't know where some of the data is from so they might blindly trust it
-in some reports you can check it

How to do you view the data gathering process?
-painful
-too many places to pull data together
-all depends on the guardian of data

How do we know what we have?
-either counted or estimates
-people add to this initial number
-definition problems (EI, III, we have our own, everyone has their own definitions)
-state report asks for figures but they don't match
-EI Network is a huge problem
-EI Network doesn't seem to care

Appendix I: Interview Transcript (Mary Monaghan)

What data do you need?
-circulation data
-registration data
-materials reports (added, withdrawn, total collection numbers)
-holds numbers
-visitors
-cybrian
-unique customers

When do you need the data?
-monthly
-something that are needed daily: circulation and visits

Who is this data for?
-internal (own knowledge)
-staffing and budgeting decisions

Do you understand how the data is gathered?
-yes, play around with web management reports
-good grasp

How to do you view the data gathering process?
-for the most part its painless (esp. EIN stuff)
-reregistrations (its manual) → hassle
-programming stats (manual) → hassle

What changes do you think should be implemented?
-web management reports are not flexible (eg. patron transactions very difficult to pull; have to do it month by month and its for the whole county not particular branch)
-manipulating reports is a hassle
-comparisons are also a hassle

Do you have any suggestions in making the data gathering process better?
-circulation → the number is not permanent (it keeps changing after manual counts)
-needs to be final
-is there a necessity to hand count
-WANT TO LOOK AT: count of reference questions → she thinks it's un reliable; very important for staffing → best thing to do: sampling period will be more accurate

How is this data reported?
-another person does reporting

How can we make the reporting process more effective?
-is not sure that there is a way to

-two different reports for the same groups so information is redundant → consolidate it into one report (adult teen activity report, summary stats report)

Who do these reports go to?
-posted not really "goes" to anyone

Appendix J: Interview Transcript (Mike Nangia)

What data do you need?
-several metrics, PC utilization, people counts, trends outside the library (VOIP, wireless, etc), looks at software development trends (analyze products)

When do you need the data?
-monthly basis
-trying to increase to every 15 mins stats.
-power should go back to department heads

Who is this data for?
-interally: budgeting purposes
-externally: for grants
-for funding raising as well

Do you understand how the data is gathered?
-yes

How to do you view the data gathering process?
-state of flux
-lots of manual stuff, some data automation, goal to make it all automated, webpage stats, make data cubes out of these

What changes do you think should be implemented?
-building a core department (growing department)
-industry standards

Do you have any suggestions in making the data gathering process better?
-people counter: already a productivity gain
-IT department can do other stuff
-raises the level of analysis
-looking at data mining

How is this data reported?
-internal/external

How can we make the reporting process more effective?
-document first and then automate

Appendix K: Interview Transcript (Pat Cunningham)

What data do you need?
-financial data
-operational data
-cost per circulation, etc
-everything
-dun & brad st.
-guidestar (non profit financial info.)

When do you need the data?
-during budgeting process
-july - november

Who is this data for?
-upper management (director, board, interdepartmental)
-external reporting (auditors, state, regional assets district)

Do you understand how the data is gathered?
-yes, internally has a good grasp

How to do you view the data gathering process?
-financial: not very efficient (labor intensive, lot of paper back up, data redundancy)
-people counter : getting better
-III: fairly efficient

What changes do you think should be implemented?
-black bot moving to web based system
-40 -50 managers who deal with finanace and need constant access to it

How is this data reported?
-financial reporting: monthly, annual reports, annual audit reports

How can we make the reporting process more effective?
-taking paper out of it
-integrating systems (with data warehouse, move towards ERP)

Who do these reports go to?
-senior management
-budget managers
-internal

Appendix L: Interview Transcript (Sheila Jackson)

What data do you need?

-Official reports to funding agencies (regional asset district)

-reports (2 annual reports)

-annual budget report

-overall circulation

-overall visitors

-% of card holders who are regional (zip code data for card holders)

-additional statistics (participation, attendees at events, # of groups served who -use programs and meeting rooms)

-total numbers served in a variety of capacities

-unique circulating customers (# of card holders who actually circulate materials; ie who is using the library)

When do you need the data?

-annual reports (1st week in Feb) → highlights submissions

-previous year accomplishments

-to include in their own reports

-official one due in June (does differs a little from the one above); changes happen (eg. specific changes in stats. Calculated wrong)

-budget submission (mid- July 16)

-how much change is considered significant (anything greater than 3%)

Who is this data for?

-immediate stakeholder

-regional asset district board

-taxpayers (1% sales tax)

-RADs reports go to a lot of people

-public information

Do you understand how the data is gathered?

-yes

How to do you view the data gathering process?

-historically takes a long time

-progress has been made (changes have been made)

-lot more electronically

-circulation stats. almost perfected (timely)

-visitor data → problematic (not timely; 3 month lag); most labor intensive

-zip code data → time consuming, least familiar with; really important to know!

What changes do you think should be implemented?

-important to be timely

-useage of data

-have to be able to replicate results
-have to have comparative data
-like to have pivot tables (much easier to read and analyze) → limits risk of messing up the data

Do you have any suggestions in making the data gathering process better?

-comparative data is important
-pivot tables

Focus on metrics → do you have any goals for these metrics and how can the IT department fit into this

-budget submissions establish system wide plans
-state assumptions: → she makes the assumptions of growth and goals
-methodology → based on historical data
-where are we in measurements (goals) → same as before
    -new strategic plan is going to take place
        -should we promote non-print materials
        -need to have a finite amount of goals and metrics
    -usage of library defines its existence

How is this data reported?

-iterative process
-issues questions (explain when issues arise)

How can we make the reporting process more effective?

-establish cutoff dates; need to establish that data is final
-there should be an "acceptable" benchmark