All the News That's Fit to. . . Analyze!

Introduction

The Oregon Newspaper Indexing Project was an indexing project centered at the University of Oregon to create a searchable online index for the newspapers published in Oregon (Bear, 2004). In 2004, a Library and Services Technology Grant (LSTA) administered by the State Library of Oregon was combined with matching funds from the University of Oregon to create a budget of $200.000. One supervisor, a classified staff member and about twenty-five students at the University of Oregon entered data to create the database. Fed into the database were indexed articles from local newspapers around the state. This outreach was accomplished by regional libraries compiling data, using a proscribed software program in Basic, saving the data to floppy disk, and then mailing the data to the State Library in Salem for compilation into the larger database at the University of Oregon. In late 2005, the grant ended and the project spun off the local newspapers to create the indexing on their own. Some regional libraries did not commit to continuing the project. Eastern Oregon University committed to continue the project locally for *The Observer* and went about programming a better data-entry interface, mounted a searchable database on the Pierce Library webpage, and trained two students to complete the indexing and data-entry. The Electronic Research Center specialist was given the supervisory duties and the Reference Librarian was the reporting head. The original training manual was revised by a student as one of her class projects, office space was carved out in the technical services area on the first floor, and work on this project continues today. Pierce Library sensed that an index to *The Observer* would be invaluable to allow patrons to locate articles from 1995 to present since we already had the issues on microfilm and no practical way to access articles without a definite date when an article appeared ("La Grande Observer index", 2006). There was no cost-analysis completed at the onset of accepting this project. I became curious to discover how much this project was costing the library and wanted to compare it to actual usage. Unhappily, I discovered that usage statistics are not measured for *The Observer* database.

Direct Costs

The fixed costs for *The Observer* project include the workstation used for data-entry. It is not necessary to have a speedy computer but it must be network capable. Using an average of seven prices found on the internet for the Dell Optiplex EX150, the price is estimated at $169.48, amortized for the next four years and divided by 52 weeks a year usage equaling $.81 for a week of work on the project. The Micron LM-1764 computer monitor is a total guesstimate as I could find no prices for it, even on eBay. I used the same figure for the CPU at $.81 per week for usage. Hardware fixed costs are then, estimated at $1.92 per week.

The furniture consists of an oak double-pedestal teacher's desk, costing an estimated $350 from checking prices on the internet, amortized over 30 years, the estimated length of time that desk has been around the library. This rate came to $11.67 for a year of usage and $.22 a week for the project. The office chair is about 5 years old and I found a similar one on the internet (http://www.csnchairs.com/Safco-Products-6301-SF1857.html) for $169. The cost of the chair for a year is $33.80 and for one week of usage for the project is $.65. The total cost for furniture is $.87.

The subscription cost of *The Observer* to be indexed is $102 per year for a weekly cost of $1.96. There are no printing supplies needed for this project but the variable costs for this project

are for the red ink pens we use for marking the articles. At $1.29 each, we use about 3 a year at $3.87. That is $.07 per week for the project.

Variable costs for the indexing project reflect the salaries and benefits of the personnel directly involved in the project. They are introduced with the most involved persons first and then descending in involvement. Two student workers at $7.50 an hour complete the indexing and the data entry. I did not include the administrative overhead, an indirect cost to us, to process their paychecks and administer the work study program. They receive no health or insurance benefits. They work a ten hour week as well as perform as undergraduate students. The data-entry student enters data for three issues an hour optimally. I clocked her myself but the variables for a particular day are many. Each issue represents a varied number of articles and keywords. Clocking does not allow for breaks or coming and going for the job. I chose to use her basic work hours as the measure for $75.00 a week's cost for the data-entry. If we were paying per piece, this cost would be variable but her annual stipend is fixed and, aside from the minimum wage changing, is fairly stable. The student who indexes works the same week for $7.50 an hour. She indexes one issue every 45 minutes but again, the variables of size of the issue and the quality of the article in regards to our scoping criteria are variables that moved me to use her basic work week of $75 for the cost of her part of the project.

The web developer/programmer is responsible for maintaining the webpage interface and backing up the data daily in normal routines (an indirect function). He built the database, populated it with historical data from the involvement with the state project and developed the data-entry interface for the student to perform the data-entry in an efficient manner. He also worked with subject heading lists. His base salary is $40, 544 with a benefits ratio of .5074% to sum at $61, 116.30 for annual salary and benefits. His hourly rate is $29.38 and worked 136 hours on this project this year. This cost is a variable depending on the hours to be needed as development occurs. I suspect however, that it will be fairly stable, in future, given the efficiency of the interfaces for both user and data-entry personnel. His yearly work amounted to a cost of $3,996.05 and representing $76.85 per week for the cost of this project.

The supervisor of *The Observer Project* earns a salary if $26,100 with a benefit ratio of .7263% amounting to $45,056.43 for annual salary and benefits. Dividing that sum by the number of work hours per year (2,080 hours=52 weeks a year at 40 hour work weeks) results in an hourly wage of $21.66. I used the 52 weeks a year as a figure, knowing that three weeks vacation, three personal days, sick leave, and paid holidays occur in the work schedule. This supervisor devotes two hours a week to the project at a cost of $43.32 per week.

Indirect Costs

The reference librarian is ultimately responsible for supervising the project as a small portion of the reference duties, acquisition responsibilities for academic departments assigned, and performing a teaching load. The base salary is $56,524 with a benefits ratio of .4933% making the sum $84,407.29 for salary and benefits. She contributes an hour a year to the project in the form of evaluation of *The Observer Project* supervisor. However, I based the calculation of cost using the square feet measurement of the indexing area (.00278%) to be $234.65 a year for services, which is $4.51 per week.

The interim library director's base salary is $53, 468 with a benefit ratio of .4933% to reach a $$79,843.76 total of salary and benefits. I do not think this is an accurate sum as there must have been some negotiation between this faculty member and administration to compensate for the interim library director responsibilities. This was not reflected in the statistics I found in

the campus salary tables. Using the square foot percentage for the indexing area of .00278% compared to the entire library, the amount for the library director's administrative indirect cost is $221.97 divided by 52 weeks a year. The cost of the library director's services, then, is $4.27 for a week.

Maintaining the physical space in the technical services area entails janitorial support. The custodian's base salary is $56,524 with a benefit ratio of .7825% resulting in a $39,545.75 sum of salary and benefits. Her hourly rate is $19.01 and she told me she spends fifteen minutes a day mopping and dusting that area. Adding time to get to and from work, recycling old issues of the newspaper, and breaks that may occur, I estimated thirty minutes a day at $9.50 per day resulting in a cost of $47.53 for custodial support per week.

To secure the building in the evening and open the area in the morning, the security personnel walks through the area, checking windows and doors. This duty is provided on a rotating basis so I used a median salary within the job classification. The base salary is $24,096 with a benefits ratio of .7085 to form a $41,168.02 sum of benefits and salary. The hourly rate is $19.79. The security person serves the library for one hour a day. *The Observer* Project area is .00278% of the building's square feet measurement. Using that measurement against the hourly wage of the security personnel is $.06 per day times seven events a week (the days the library is opened and closed) for a cost of $.38 per weekly cost to the project. I used a square foot measurement in this calculation instead of a time measurement as the service is merely a walk through of the space compared to the custodial services performing time-related duties for this specific area.

To ascertain the costs to heat, air condition and light the area for the project took some research. The library is metered with four other buildings and no one I could find on campus could arrive at a cost. I consulted the Lexis-Nexis databases for industry standards to use and found nothing specific enough in terms of locale to use. I researched RFPs for projects being bid in the area to see if someone else had already determined a figure of the energy costs per square foot. I contacted the Department of Energy in Salem, Oregon and received the information I needed to, at least, figure a reasonable square footage cost for energy expenses given the age, square footage, and design of the building. Energy analyst Bruce Alford worked with me over the telephone to determine a solid estimate of the energy costs for a building built in 1951 with 40,294 square feet in area, most of the building with high ceilings, and a side of the building that is mainly windows (Alford, 2006). He estimated, based on 2007 rates, that the cost per square foot could be $1.90. He estimated that 40-50% would be for electricity, and 60-50% for natural gas. The technical area for the newspaper indexing project is .00278% of the library that I multiplied times the cost to heat/cool and light the building for a year, equaling $76,558.50. The cost for the smaller area came to $212.83 annually, or $4.09 per week.

Opportunity Cost

Without data regarding the number of times the newspaper index was accessed and by whom, opportunity costs cannot be determined at this time. Opportunity costs take into account the value of the time spent in consuming a service or goods to provide alternative offerings of a service. (Kingma, 2001) Depending on the type of user and the time spent accessing the index and retrieving the article from the newspaper microfiche, the cost of that patron's time saved in using an index could be calculated. Using an estimate of a patron who may receive the minimum wage of $7.50 an hour in Oregon (I used this figure because I have observed that many of the patrons using these articles are retirees and town patrons), spending fifteen minutes locating an

article in the Observer database would result in $1.88 for that portion of the search. Estimating another 45 minutes for retrieval of the article (retrieving the microfilm from the cabinet, loading the microfilm reader, locating the article on the roll, and then printing the desired article) would result in $5.64 in time for the retrieval segment of time. The reading of the article may take 15 minutes for another $1.88 of time to result in a combined estimate of $9.40 for the opportunity cost of this information event. However, I have no data on how long it takes the same patron to browse through a range of newspaper issues to find a desired article with the variables of an unspecified issue date and an unspecified range.

Sunk Costs

The library was built in 1951 so I did not include the cost of it in the calculations, nor did I include the cost of the networking infrastructure, and storage space on the server.

Summary

The total for the direct costs was $274.99 per week and indirect costs were $60.78 per week. The indirect costs were 22% of the direct costs. Per issue of the newspaper, which publishes six days a week, the total for each issue to be indexed and available in the online database was $55.96. I cannot reach conclusions about the value of this service without user data to calculate cost per usage. Just for an exercise, using the estimated numbers in the opportunity cost section ($9.40 per search), it would take six hits a week to realize the value of the project in financial costs. If the user data were anything near that figure, the project could be cost-effective.

References

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