INFORMATION TECHNOLOGY USAGE BY NONPROFIT ORGANIZATIONS IN LOUISIANA

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ABSTRACT

This study investigates the use of information technology by nonprofit organizations in Louisiana. Over half of the respondents reported no organization-owned computers. Word processing software ranked as first in importance for the organizations' work. Accounting software was used by only 44 percent of respondents. Very few organizations used on-line banking or on-line purchasing. Annual dollar receipts were correlated with number of paid staff, number of volunteers, number of organization computers, and 6 of the 7 software packages identified in the study. Regression analysis identified a relationship between use of an accounting package and annual receipts of the organization.

Keywords: nonprofit organizations, information technology, accounting, software

INTRODUCTION

This research project investigates the extent of use of information technology (IT) in private nonprofit corporations in Louisiana. How do factors such as presence or absence of paid staff, independence versus affiliation with regional or national organization, location of operations, and annual receipts impact IT usage?

The researchers both have had personal experiences in serving in officer positions with private nonprofit organizations and have shared the frustration of inefficiency and/or ineffectiveness caused, in part, by lack of or insufficient use of IT within the organization. These concerns relate to such tasks as maintaining correct records of finances, providing officers with accurate and timely details, maintaining records of volunteers, and communicating with members and the general public. This paper predominantly focuses on identifying the IT these organizations have available, with a close look at IT usage for accounting and banking activities, and perceived importance of various software.

An investigation of the literature reveals very little focus on use of technology within smaller nonprofit organizations. While differences between for-profit corporations and non-profits exist, Popjoy (6) noted, "Herein lies the opportunity: information technology can help make non-profits more effective." Sara Melendez, president of Independent Sector, states, "Many smaller nonprofits are still collecting information the old-fashioned way, using index cards or typewriters. . . . How can technology help them do their work more efficiently and render their services more effectively?" (2). Berry (1) notes that while the U.S. spends over $200 billion a year (2 percent of the GDP) in the nonprofit sector, nonprofits have not yet taken full advantage of the recent technology revolution.

Articles in *Fund Raising Management* (5) and the *Houston Business Journal* (7) report that medium to large nonprofit organizations are turning to application service providers to avoid housing all the necessary software in house. Many nonprofits are now using the Internet to accept online gifts or for online auctions. Additionally, software grants may be available to various types of nonprofit organizations from vendors such as Microsoft (3).

Purpose

How much technology is available in private nonprofit organizations in Louisiana? How are these organizations using the technology available to support routine office activities? These questions form the basis for the study. The researchers further investigated the impact of paid staff, independence versus affiliation with regional or national organizations, location of operations, and annual receipts on IT usage.

Methodology

The researchers constructed and pretested a survey instrument to determine how nonprofits report using information technology to support their activities and mission. The office of the Louisiana Secretary of State provided a March 2001 listing of Louisiana nonprofit organizations which served as the population list for the study. Using a systematic random sample of the active private nonprofit organizations (excluding churches), the researchers identified a list of 1004 organizations. Questionnaires and business reply envelopes were mailed in early May.

Classification of respondents' data included number of paid staff, number of local volunteers, affiliation with a regional or national group, location of operations (urban or rural based), and annual receipts.

Survey questions focused on the following IT usage areas:
- Hardware and software availability
- Productivity software packages
- Monitoring of finances/program results (accounting systems)
- Decision support system tools

Analysis of data was completed using SPSS software. In addition to descriptive statistics that illustrate which areas of IT support are most common and least common, cross tabulation and correlation tools were used to show how (or whether) the extent of IT usage varies with the classification data. Hypothesis tests also determined which observed differences were significant.

FINDINGS

The findings section is organized into sections addressing simple descriptive statistics, correlations, and hypothesis testing.

Descriptive Statistics

Of the 1004 surveys mailed, 103 were returned as undeliverable. Respondents returned a total of 163 usable questionnaires. Calculating response rate on the 901 assumed deliverable, a response rate of 18.1% was achieved.

Almost two-thirds of the respondents indicated the nonprofit group was local only and not affiliated with a larger statewide, regional, or national organization. Eleven percent of the respondents reported affiliation with a national organization.

Respondents indicated the main parish of their operations. The researchers then assigned a rural or urban code to the organization's parish of primary operations. Organizations that reported operations in parishes incorporating the cities of Baton Rouge, New Orleans, Shreveport/Bossier City, and Lafayette were classified as urban. All other parishes were classified rural. As illustrated in Table 1, 44.2 percent had primary operations in urban parishes. Almost three-fifths (58.3%) reported no paid staff. Only 17.2% reported paid staff of six or more. (See Table 2 below.)

Table 1
Location of Primary Operations

Parish Classification	Number	Percent
Urban	72	44.2
Rural	85	52.1
No Response	6	3.7
Total	163	100.0

Table 2
Number of Paid Staff

Code	Paid Staff	Number	Percentage
1	0	95	58.3
2	1-2	20	12.3
3	3-5	19	11.7
4	6 or more	28	17.2
0	No response	1	.6
	Total	163	100.0

Slightly over half (50.9%) reported ten or fewer active volunteers (workers) in their organization. Approximately 20% reported between 11 and 30 active volunteers. Twenty-seven percent reported 31 or more active volunteers.

A key variable investigated in this study was size of annual receipts of the organization. Over 90% of respondents did provide this financial information. While slightly over one-third (35.6%) reported annual receipts of $10,000 or less, 13.5% reported annual receipts over $300,000. Details are provided in Table 3.

Over half (52.3%) reported no organization-owned computers; only 11.7% reported six or more organization-owned computers. Eighty-one percent of the organization officers who responded reported having a home computer, and sixty percent of the respondents reported using their home computers to complete various nonprofit organization tasks during an average week.

Seven key software packages were presented to respondents, who were asked to indicate which were used for the nonprofit organization's work. The mean for the 163 respondents was 3.31 packages. Word processing software was used in more reporting organizations than any of the other software packages. E-mail software was second. Database software and accounting software were fourth and fifth among the packages used. (See Table 4.)

Table 3
Annual Receipts of Responding Organizations

Annual Receipts	Number	Percent
$10,000 or less	58	35.6
$10,001 - $25,000	15	9.2
$25,001 - $50,000	16	9.8
$50,001 - $75,000	13	8.0
$75,001 - $100,000	8	4.9
$100,001 - $150,000	6	3.7
$150,001 - $200,000	8	4.9
$200,001 - $300,000	2	1.2
$300,001 +	22	13.5
No response	15	9.2
Totals	163	100.0

Table 4
Software Applications Used within
the Nonprofit Organizations

Software Package	% Reporting Package Use
Word Processing	74
E-mail	56
Spreadsheet	51
Database	45
Accounting	44
Desktop Publishing	42
Web-site development	17

Respondents ranked word processing software first in importance of those same application packages for their organization's work. Database software ranked second in this listing, although it was fourth in the list of currently used software. Accounting software ranked fourth in importance, following e-mail software. Table 5 presents the complete ranking.

Table 5
Ranking of Importance of Software

Software Package	Rank	Mean
Word Processing	1	4.93
Database	2	3.29
E-mail	3	3.17
Accounting	4	3.13
Spreadsheet	5	2.83
Desktop Publishing	6	2.52
Web site development	7	1.09

For those organizations using an accounting package, respondents were asked to indicate the particular components in use. As illustrated in the Table 6, 40.5% reported use of a general ledger component. The next most popular component was accounts payable (33.7%). Thirty-five percent reported more than one component within the accounting software. Over one-third of respondents (36.2%) reported no accounting package. Almost 18 percent did not respond to the question.

Table 6
Availability of Accounting Software

Accounting Component	Number	Percent
General Ledger	66	40.5
Payroll	36	22.1
Accounts Payable	35	33.7
Pledges/Membership Receivables	36	22.1
More than 1 component	57	35.0
No Package	59	36.2
No response	29	17.8

How many of the reporting organizations used online banking? Only 6.1% reported using this technology. When asked about online purchasing for the organization, 19.6% did report doing at least some purchasing online.

What additional software would the respondents identify as most useful to their organization, beyond that already available? Web site software received the highest score, followed by desktop publishing software and accounting software. In an earlier question, web site software was identified as the package in use at the least number of reporting organizations.

Correlations

The variables analyzed in the correlations were all discrete ordinals. The scale for number of paid staff, for example, was identified in Table 2. The correlations were all positive with the exception of the location of primary operations.

Location of primary operations correlated with number of organization owned computers, number of packages used, and use of accounting software, e-mail software, desktop publishing software, and web-site building software. All correlations were negative (a result of the urban code of 1 and rural code of 2) and significant at the .01 level. This technology and software tended to occur more often in connection with an urban organization. Location of primary operations also correlated with annual receipts (wealthier organizations more likely in urban areas) at the .01 level.

Annual dollar receipts were positively correlated with number of paid staff, number of volunteers, number of organization computers, e-mail availability, and use of all the software packages identified in Table 5 except web-site development software. Annual receipts also correlated significantly with the *importance of* all the software packages except web-site development software. Annual receipts were not correlated with being part of a larger organization.

As the researchers expected, use of accounting software was strongly positively correlated with annual receipts of the organization, availability of organization-owned computers, and number of paid staff. A further analysis of correlations of this particular software found its use was not significantly correlated with an organization's affiliation with a larger organization, and not with banking online or purchasing online.

The number of paid staff correlated positively (significant at .01 level) with number of software packages used by the organization and with six of the seven software packages (significant at .05), excluding web-site development software. Paid staff did not correlate with online banking or online purchasing. The number of volunteers correlated positively (significant at .01 level) with number of software packages used. Number of volunteers correlated positively (significant at .05 level) with number of paid staff. The only software package / number of volunteers correlations significant included accounting softwre, spreadsheet, and email (.05 level).

As illustrated in Table 7, correlations were run among the various software packages. All correlations below were positive and significant; while the researchers set .05 as the standard of significance, all correlations except the word processing and web-site software were significant at the .01 level.

Table 7
Software Package Use Correlations

	Database	Spreadsheet	Word Processing	Accounting	E-Mail	Desktop Publishing
Database						
Spreadsheet	.328					
Word Processing	.361	.424				
Accounting	.329	.254	.376			
Email	.443	.265	.501	.397		
Desktop Publishing	.302	.231	.249	.324	.502	
Web Site	.296	.212	.187*	.308	.325	.320

*Significant at the .05 level

Regression

The following null hypothesis was tested using multiple regression analysis: There is no relationship between the number of software packages used by a nonprofit organization and its affiliation with a larger entity, its location, the number of paid staff it employs, and the amount of annual receipts.

A forward stepwise regression was run on these variables. This procedure returned two acceptable models. The first model was $V_{13} = 1.968 + .727V_4$; $R^2 = .158$ and the coefficient of V_4 is significant at the .01 level, where V_{13} = the number of software packages used by an organization and V_4 = the number of paid staff. The second model was $V_{13} = 2.904 + .695V_4 - .520V_3$; $R^2 = .182$, the coefficient of V_4 is significant at the .01 level, and the coefficient of V_3 is significant at the .05 level, where V_{13} = the number of software packages used by an organization, V_4 = the number of paid staff, and V_3 = the entity's location.

The second independent variable examined was the use of an accounting package. The dependent variables were the nonprofit organization's affiliation with a larger entity, its location, the number of paid staff employed, and the amount of annual receipts. A forward stepwise regression returned only one model. $V_{18} = .237 + .06012V_{12}$. $R^2 = .131$, and the coefficient of V_{12} is significant at the .01 level, where V_{18} = the use of an accounting package by an organization and V_{12} = the amount of annual receipts. The R^2 of all four dependent variables

was .158 although none of the coefficients of the dependent variables were significantly different from zero. For annual receipts only, the R^2 fell to .131.

CONCLUSIONS AND RECOMMENDATIONS

The cost of computers including popular software bundles has plummeted over the past several years, making use of information technology much more affordable to even the most budget-conscious entities. However, study results found over half of the respondents reported no organization-owned computers. Accounting software was not widely available; word processing software ranked as most important software for supporting tasks. Wealthier organizations were more likely urban-based organizations; higher IT levels were also more likely in urban-based organizations.

Further study may be done on the reasons for a relative lack of IT use by nonprofits. These reasons could be a lack of computer skills on the part of the key officers, a lack of awareness of the time and work-saving features of IT, or because the software packages widely available are lacking some attributes needed or desired by the nonprofit organization.

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