School Nutrition Program Utilization
of the NFSMI FUNDamentals
Financial Management Software

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National Food Service Management Institute
The University of Mississippi

Building the Future Through Child Nutrition

The National Food Service Management Institute was authorized by Congress in 1989 and established in 1990 at The University of Mississippi in Oxford. The Institute operates under a grant agreement with the United States Department of Agriculture, Food and Nutrition Service.

PURPOSE

The purpose of NFSMI is to improve the operation of Child Nutrition Programs through research, education and training, and information dissemination. The Administrative Offices and Divisions of Information Services and Education and Training are located in Oxford. The Division of Applied Research is located at The University of Southern Mississippi in Hattiesburg.

MISSION

The mission of the NFSMI is to provide information and services that promote the continuous improvement of Child Nutrition Programs.

VISION

The vision of the NFSMI is to be the leader in providing education, research, and resources to promote excellence in Child Nutrition Programs.

CONTACT INFORMATION

Headquarters
The University of Mississippi
Phone: 800-321-3054
Fax: 800-321-3061
www.nfsmi.org

Education and Training Division
Information Services Division
The University of Mississippi
6 Jeanette Phillips Drive
P.O. Drawer 188
University, MS 38677-0188

Applied Research Division
The University of Southern Mississippi
118 College Drive #5060
Hattiesburg, MS 39406-0001
Phone: 601-266-5773
Fax: 888-262-9631

Acknowledgments

WRITTEN AND DEVELOPED BY

Evelina Cross, PhD, RD
Researcher
Professor Emeritus
Louisiana State University

Mary Frances Nettles, PhD, RD
Director
Applied Research Division
The University of Southern Mississippi

NFSMI EXECUTIVE DIRECTOR
Katie Wilson, PhD, SNS

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EXECUTIVE SUMMARY

The ability to interpret the financial outcomes of operational decisions is essential to effective management of school nutrition (SN) programs. With changing federal regulations, increasing program costs, and growing demands to improve school meals, both in quality and nutrition, it is imperative that SN directors understand financial management as it relates to the SN program. Thus, the National Food Service Management Institute, Applied Research Division (NFSMI, ARD) developed the *NFSMI Financial Management Information System* (NFSMI, 2005), a uniform system that established standardized format and account classifications to guide in the preparation and presentation of financial statements. It allows administrators to decide whether their operation's financial health has improved compared to previous accounting periods or past budget periods. It also allows administrators to compare their operation with similar operations (Cater, 2004).

The NFSMI, ARD then directed the development of a financial software program, NFSMI FUNDamentals, based on the *NFSMI Financial Management Information System.* NFSMI worked with Visual Solutions™, a commercial provider of software applications specifically targeting the needs of school foodservice operations. In keeping with the mission of NFSMI, the FUNDamentals software is available at no cost to any school food authority in the nation.

The purpose of this study was to evaluate both the use of FUNDamentals and user perception of its effectiveness in improving operations. An electronic survey was developed and transmitted to 190 individuals. An actual response rate of 20.8% was achieved. Results indicated that a majority of respondents were satisfied with the support received from the software vendor. The three most common uses of the software were profit/loss statement, cost of food used, and meals per labor hour. A majority of participants agreed that FUNDamentals was useful in selecting the most cost effective goods and services and providing information needed to operate a cost effective school nutrition program. The analyses most frequently utilized were individual school operations, sharing financial information with managers, sharing selected information with school staff, and reporting to school officials and school board. Respondents stated that FUNDamentals improved management of school nutrition through decreased time gathering and analyzing financial data, improved staffing, and increased productivity. FUNDamentals did not influence decision-making for a majority and not all respondents felt the software was helpful in managing their program as a business.

While many useful applications of FUNDamentals were identified, it is apparent that the software has not been utilized to its full potential. To increase the use of the software would require an intense and prolonged marketing effort. The continuation of the software and the maintenance contract should be evaluated in terms of the costs and potential benefits.

INTRODUCTION

The U.S. Department of Agriculture (USDA) National School Lunch Program and School Breakfast Program provide subsidized meals to children in school. Managing the financial resources of these nutrition programs in the school setting is critical to the success of maintaining quality standards and ensuring nutritious meals are served to children. Child Nutrition Program data tables provided by the USDA indicate that in the school year 2009, the National School Lunch Program served an average of approximately 31 million lunches daily at an annual federal cost of $8.8 million. During the same year, 11 million children were served breakfast each school day at an annual cost of over $2.5 million in federal cash payments. When dollars spent by states and paying students are added, school nutrition (SN) programs represent a significant level of public funding (FNS, 2010).

The ability to interpret the financial outcomes of operational decisions is essential to effective management of SN programs. With changing federal regulations, increasing program costs, and growing demands to improve school meals, both in quality and nutrition, it is imperative that SN directors understand financial management as it relates to the SN program. (Cater, 2010). Thus, the National Food Service Management Institute, Applied Research Division (NFSMI, ARD) developed the *NFSMI Financial Management Information System* (NFSMI, 2005), a uniform system that established standardized format and account classifications to guide in the preparation and presentation of financial statements. It allows administrators to decide whether their operation's financial health has improved compared to previous accounting periods or past budget periods. It also allows administrators to compare their operation with similar operations (Cater, 2004).

The NFSMI, ARD then directed the development of a financial software program, NFSMI FUNDamentals, based on the *NFSMI Financial Management Information System.* In keeping with the mission of NFSMI, the basic financial management software is available at no cost to any school food authority in the nation. The software was developed and is maintained by Visual Solutions™, a commercial provider of software solutions specifically targeting the needs of school foodservice operations.

A nation-wide telephone survey by the NFSMI, ARD (Cater, 2004) investigated the application of NFSMI FUNDamentals as a financial management tool in school foodservice operations. Respondents were divided as to the usefulness of the software and the service provided by the software vendor maintaining FUNDamentals.

Research Objectives

Improvements were made to the software, and NFSMI continued to monitor FUNDamentals as a financial management tool. The purpose of this research project was to evaluate the use of FUNDamentals and user perception of its effectiveness as an agent for improved SN operations.The specific objectives of the project are as follows:

- Identify changes made in program management and operations as a result of using NFSMI FUNDamentals;

- Ascertain user perception of NFSMI FUNDamentals as an instrument for improved financial decision making;

- Determine user perception of NFSMI FUNDamentals as an aid to operate the school nutrition program as a business entity; and

- Identify user perception regarding level of service provided by the NFSMI FUNDamentals software vendor.

METHODOLOGY

Survey

This study used online survey methodology to explore respondent use and perceptions of the National Foodservice Management Institute (NFSMI) FUNDamentals financial management software. An electronic survey (e-survey) was developed utilizing a commercial online survey tool, SurveyMonkey. The objectives of the study were identified at the beginning of the instrument, and specific instructions for completing the survey were given. The first question divided respondents into those who had installed FUNDamentals and those who had not. Those who replied that they had not installed the software were asked for their reason(s) for not installing the program. These respondents then were directed to exit the summary. These two questions completed their participation in the survey.

The respondents who had installed the survey were asked to complete demographic information. Many of the survey questions were in checklist form, and respondents marked all that applied. Questions dealt with ease of installation and set-up, satisfaction with assistance provided, user friendliness of FUNDamentals, how the software was used, and what analyses were performed. Two questions asked respondents to rate their agreement with statements about the usefulness of the software. Text entry allowed for additional comments. Survey development was guided by project objectives, and the survey and a cover letter were reviewed and pilot tested by a panel of experts in the fields of education, foodservice management, and survey development. A telephone interview was conducted with each professional to address questions regarding the clarity and appropriateness of the language of the cover letter and survey. In addition, the mechanics of accessing the survey were tested. The survey was revised based on the expert panel members' recommendations.

Study Sample

Participants were selected from an NFSMI database containing registered school districts that requested and received an identification number for using the FUNDamentals software. The database included information from August 2007 through November 2008. Entries were reviewed, and duplications and addresses with missing information or obvious errors were eliminated.

Survey Distribution

A pre-notice letter was e-mailed to the school nutrition (SN) director of each district identified as using NFSMI FUNDamentals software to briefly describe the study and alert the recipients that a link to a secure online survey would be sent to them in one week. At the time specified, each SN director was sent an e-mail that provided details of the purpose of the study and instructions for accessing the online survey. The e-mail emphasized the confidential and voluntary nature of the study and that participation denoted consent. For those who did not wish to participate, a second URL was provided that, when accessed, removed the user from any subsequent survey contacts. A reminder e-mail was sent to those who had not responded one week subsequent to transmission of the Web survey link.

Informed Consent

The researchers followed informed consent procedures approved by the Human Subjects Protection Review Committee at the University of Southern Mississippi for the research study.

Data Analysis

The data were tabulated electronically utilizing the collection and analysis features of the commercial online survey tool. E-survey results were tabulated, summarized, and reported

electronically to the researchers. Number and percent were determined for each question.

Additional comments requiring text entry were recorded for review.

RESULTS AND DISCUSSION

A total of 190 surveys were transmitted electronically to individuals who had contacted

the National Food Service Management Institute, Applied Research Division (NFSMI, ARD)

and Visual Solutions™ during 2007 and 2008 to register to allow installation of the NFSMI

FUNDamentals financial management software. Of this number, 56 individuals responded

(29.5%). Review of the summary results indicated that 58.2% of the respondents (32) actually

installed the software (Table 1).

Table 1

District School Nutrition Programs that Completed Installation and Set-up of the NFSMI
FUNDamentals (n=55)

Districts Completing Installation	Number	Percent
Yes	32	58.2
No	23	41.8

Twenty-three (41.8%) of the 55 respondents did not install the software and were asked

to identify their reason(s) for not completing the installation and set-up procedures of the NFSMI

FUNDamentals (Table 2). Of the 16 respondents, seven cited lack of time as the major reason for

not installing the software. Three indicated that the software did not meet the needs of their

district, and two responded that duplication of data entry requirements was an obstacle for their

district. It appeared that a lack of computer skills and training were not barriers to using

FUNDamentals, since none of the respondents cited lack of computer skills as a barrier to using

FUNDamentals. Four respondents stated that they "*did not know*" why the software was not

installed. This may have been due to personnel turnover in the district if the originator of the

request for FUNDamentals was no longer employed by the district. A variety of additional

comments were volunteered by the respondents:

- "I wasn't aware the software existed."

- "Where do we get the software?"

- "We recently purchased another software system."

- "The program runs on PCs, and our school district uses Mac computers. They are not

  compatible, and we were unable to use it."

- "No technical support at the district level, so the system was pretty useless for us."

Table 2

Reasons for Not Installing NFSMI FUNDamentals Financial Management Software (n = 16)

Reason	No.[a]	Percent
Lack of time	7	43.8
Don't know	4	25.0
Does not meet needs of district	3	18.8
Duplication of data entry requirements	2	12.5
Too difficult	1	6.3
Lack of training	1	6.3

[a]Multiple responses

The 32 respondents who had installed FUNDamentals were asked to rate the ease of

installation and set-up of components of the software (Table 3). The three categories dealing

with standard components of the software were considered easier to install, with entry of

individual district budget, personnel, and account information being considered more difficult.

Additional responses included the following.

- "Santa Rosa County has a Food Service Management Company (FSMC) managing the program. Compiling the data can be done, but not easily."

- "We had help from Visual Solutions™ to set up the software and didn't do it ourselves."

- "I did not install. Someone from FUNDamentals installed."

- "A lot of the terminology was different from the way it is labeled by the business office, so it was confusing to know what number to put where. I would like to be able to put in the terminology according to my own business office tables so everything matches."

Table 3

Ease of Installation and Set-up

Ease of Installation	Very Easy		Somewhat Easy		Somewhat Difficult		Very Difficult	
	No.	%	No.	%	No.	%	No.	%
Entering account information (n=17)	6	35.3	7	41.2	3	17.6	1	5.9
Developing personnel profile (n=15)	7	46.7	4	28.7	3	20.0	1	6.7
Entering budget information (n=15)	6	40.0	6	40.0	2	13.3	1	6.7
Setting production calendar (n=17)	8	47.1	5	29.4	4	23.5	0	0
Setting calendar day categories (n=16)	8	50.0	6	37.5	2	12.5	0	0
Entering facility information (n=16)	9	56.3	5	31.3	2	12.5	0	0

Of the 17 participants who rated the ease of installing account information, 13 indicated that the process was "very easy" or "somewhat easy." Four indicated that it was "somewhat" or "very difficult." The process for developing and installing the personnel profile was rated

"very easy" or "somewhat easy" by 11 (73.3%) of the 15 responding to the question. Four

(26.6%) considered the process "somewhat difficult" or "very difficult." Twelve (80 %) of

fifteen respondents considered it "very easy" or "somewhat easy" to install the budget

information. Only three (20%) considered the process "somewhat" or "very difficult." Setting the

production calendar was considered "very easy" or "somewhat easy" by 13 (23.2%) of the 17

respondents rating the ease of installation. Fourteen of the 16 respondents rating the ease of

installing calendar day categories deemed the process "very easy" or "somewhat easy."

Sixteen of 32 (50%) survey respondents failed to answer the question asking about the

ease of installation for entering facility/site information. With no indication for the reason(s) so

many failed to answer numerous survey questions, the researchers can only speculate that many

responding to the survey had not been involved or working in the district at the time

FUNDamentals was installed. Sixteen (87.6%) of the 32 who responded to the question rated the

ease of installing the facility/site information as "easy" to "somewhat easy." Only two felt it was

"somewhat difficult" and none indicated that installation was "very difficult."

Most (17) of the 20 responding indicated that they had requested assistance from NFSMI

or the software developer, Visual Solutions (Table 4). Twelve of the 17 requesting assistance

were satisfied with the responses provided (Table 5). In thirteen instances, assistance was

provided to resolve the problem(s) (Table 6).

Table 4

Requests for Assistance from Software Developer (n =20)

Request for Assistance	Number	Percent
Yes	17	85.0
No	3	15.0

Table 5

Satisfaction with Response from Software Developer (n =17)

Satisfaction with Response	Number	Percent
Yes	12	70.6
No	5	29.4

Respondents offered the following additional comments regarding their satisfaction with response from the software developer:

- "The software was not designed to consider FSMC input."

- "I'm still very confused, and we are not using the software as planned. Have not completed the personnel profile information."

- "I used this program several years ago when it was first given to us by the State Department. It did not function properly, and the reports were not accurate. I spoke with Visual Solutions™ several times and, after no resolution to the problem was given, I discontinued use of the product. I only used this program for one school year and was dissatisfied."

- "Very helpful and takes the time to explain all our concerns."

Table 6

Assistance Provided to Resolve Problem(s) (n =17)

Assistance Provided to Resolve Problem(s)	Number	Percent
Yes	13	76.5
No	4	23.5

Two additional comments on assistance provided were:

- "They were always very helpful."

- "Some problems were resolved. The follow-up session did not occur."

A majority (64.7%) of the respondents intend to use FUNDamentals for program analysis

in the next year (Table 7). Two respondents added the following statements:

- "I'm not sure. If we can actually get going this school year, then I most likely will

  use it."

- "I would like to break down the labor hours worked by myself. We satellite meals, so

  I want to put some hours in one school and some other hours in another school. I

  couldn't figure out that the software would let me do that."

Table 7

Intent to Analyze Program with NFSMI FUNDamentals within the Next Year (n =17)

Intent to Analyze Program with FUNDamentals Within the Next Year	Number	Percent
Yes	11	64.7
No	6	35.3

A majority of respondents (68.4%) considered FUNDamentals "user friendly" (Table 8).

Additional comments follow:

- "Overall, I would have to say no, only because I have not operated any other software

  programs similar to it. However, the longer I use it and the more help I get from

  Visual Solutions™, the easier it is becoming."

- "I think getting started is a little tough for me, because the corporation does not have

  software that makes it easy to gather financial information by building."

- "It is user-friendly. It just did not function properly, and no resolution was given. I felt since they could not resolve the problem, we were just forgotten about."

- "In some ways it was, and in some ways, it wasn't."

Table 8

NFSMI FUNDamentals as "User Friendly" Software Program (n= 9)

FUNDamentals as "User Friendly" Software	Number	Percent
Yes	13	68.4
No	6	31.6

The most common financial analysis by users of FUNDamentals was the profit/loss statement (Table 9). Other frequent analyses were cost of food used, meals per labor hour, meal cost, food cost as a percentage of total revenue, labor cost as a percentage of total revenue, and meal equivalents. No respondents used FUNDamentals to monitor overtime.

Table 9

Analyses Performed by Users of NFSMI FUNDamentals (n=17)

Analyses Performed by Users of FUNDamentals	No.[a]	Percent
Profit/loss statement	16	94.1
Cost of food used	14	82.4
Meals per labor hour	13	76.5
Meal cost	12	70.6
Food cost as percent of total revenue	12	70.6
Labor cost as percent of total revenue	12	70.6
Meal equivalents	12	70.6
Per meal revenue	11	64.7
Labor costs per year	10	58.5
Supply cost as percent of total revenue	9	52.9
Other costs as percent of total revenue	8	47.1
Revenue per program (after-school, summer feeding, catering, contracted meal services)	7	41.2
Participation rates per school	7	41.2
Participation rates per district	6	35.3
Participation rates per meal eligibility category (free, reduced, paid, adult)	6	35.3
Average labor cost per meal	6	35.3
Daily revenue	5	29.4
Balance sheet	5	29.4
Average hourly labor cost	3	17.6
Commodity usage	2	11.8
Inventory turnover	2	11.8
Budget development	1	5.9
Budget variance	1	5.9
Inventory variance report	1	5.9
Break-even point	1	5.9
Overtime monitoring	0	0.0

[a] Multiple responses

Participants were asked to review seven sentences describing the NFSMI FUNDamentals software and indicate their level of agreement. The majority (64.7%) of the respondents agreed that FUNDamentals provided them with information needed to operate a cost effective school nutrition (SN) program. Forty-one percent of the respondents agreed that FUNDamentals is a good tool to use when relating procurement practices to the cost of producing a meal.

Table 10

Agreement with Statements Describing NFSMI FUNDamentals

Statements Describing NFSMI FUNDamentals	Strongly Agree		Agree		Disagree		Strongly Disagree	
	No.	%	No.	%	No.	%	No.	%
NFSMI FUNDamentals software is a good tool to use when relating procurement practices to the cost of producing a meal.	4	(23.5)	7	(41.2)	6	(35.3)	0	(00.0)
NFSMI FUNDamentals software applications facilitate better inventory control.	2	(12.5)	5	(31.2)	9	(56.3)	0	(00.0)
NFSMI FUNDamentals software applications enable selection of the most cost effective goods and services.	4	(23.5)	7	(41.2)	6	(35.3)	0	(00.0)
NFSMI FUNDamentals software is helpful in identifying food cost related to implementation of nutrient standards and a wellness program.	2	(13.3)	6	(40.0)	6	(40.0)	0	(00.0)
NFSMI FUNDamentals is useful in developing a budget that provides a clear picture of funds available for the purchase of new equipment.	1	(6.7)	8	(53.3)	6	(40.0)	0	(00.0)
NFSMI FUNDamentals software is a useful tool to determine the most efficient and cost effective staffing patterns.	3	(18.8)	7	(43.8)	6	(37.5)	0	(00.0)
Financial analyses performed by NFSMI FUNDamentals software provide information needed to operate a cost effective school nutrition program.	4	(23.5)	11	(64.7)	2	(11.8)	0	(00.0)

The two most common ways that respondents used analyses from NFSMI FUNDamentals were "financial analysis of individual sites" and "sharing information with managers" (Table 11). No respondents utilized the analyses by NFSMI FUNDamentals for vendor selection.

Table 11

Use of Analyses Performed by Users of NFSMI Fundamentals (n=12)

Uses of Analyses Performed by Users of FUNDamentals	No.[a]	Percent
Financial analysis of operations by individual school manager	11	91.7
Sharing appropriate financial information with managers	11	91.7
Sharing selected information with school staff	8	66.7
Reporting to school officials and school board	6	50.0
Determining and analyzing participation in the SN program	6	50.0
As a basis for staffing decisions	6	50.0
Financial reporting to state and other government agencies	5	41.7
As a resource when discussing meal prices with parents or teachers	5	41.7
As an informational and marketing tool to introduce changes in school nutrition services	4	33.3
As a resource when making presentations to community and professional organizations	3	25.0
Determining costs of participating in the district wellness program	1	8.3
Sharing selected and appropriate information with media	1	8.3
Assisting in vendor selection	0	0.0

[a] Multiple responses

As depicted in Table 12, the three most common ways FUNDamentals analyses have assisted in improving the management of the SN program are "decreased time spent gathering and analyzing financial data" (90.9%), "improved staffing related to number of meals served" (81.8%), and "increased productivity" (MPLH) (72.7%). Quicker inventory turnover (9.1%), decreased budget variances (9.1%), and increased ability to identify costs of participation in district wellness program (9.1%) were used the least.

Table 12

How NFSMI FUNDamentals has Assisted in Improving the Management of the School Nutrition Program (n=11)

How FUNDamentals has Assisted in Improving Management of the School Nutrition Program	No.[a]	Percent
Decreased time spent gathering and analyzing financial data	10	90.9
Improved staffing related to number of meals served	9	81.8
Increased productivity (MPLH)	8	72.7
Lower food costs	5	45.5
Decreased meal costs	4	36.4
Increased accuracy in forecasting	4	36.4
Increased fund balance	3	27.3
Increased revenue	3	27.3
Less food waste	3	27.3
Increased participation	3	27.3
Increased ability to identify costs to meet nutrient standards	3	27.3
Cost containment of supportive services such as maintenance or waste disposal	2	18.2

[a] Multiple responses

Table 12 continues

(Table 12 continued)

How NFSMI FUNDamentals has Assisted in Improving the Management of the School Nutrition Program (n=11)

How FUNDamentals has Assisted in Improving Management of the School Nutrition Program	No.[a]	Percent
Lower labor costs	2	18.2
Decreased/eliminated overtime hours/costs	2	18.2
Increased inventory control	2	18.2
Decreased inventory levels	2	18.2
Decreased pilferage or "shrinkage"	2	18.2
Quicker inventory turnover	1	9.1
Decreased budget variances	1	9.1
Increased ability to identify costs of participation in district wellness program	1	9.1

[a] Multiple responses

Respondents were asked to describe how NFSMI FUNDamentals software has enabled them to better operate their SN program as a business. Fourteen participants replied to this question and their comments are displayed in Table 13.

Table 13

Comments on How NFSMI FUNDamentals Enabled Users to Better Operate their School Nutrition Program as a Business

Comments

1. "Not using it."

2. "We use FUNDamentals as a point of reference to compare and contrast each school's revenue and expenses to similarly sized schools. We particularly like seeing the breakdown of labor and food expense."

3. "Comparison to other schools inside and outside your area."

4. "At this point it has not been helpful, but it is because of us and not the software or the software vendor. I need to follow up with them to see how to move forward."

5. "It hasn't. We were dissatisfied because the reports were inaccurate and we stopped using it about 5-6 years ago."

6. "We use the program to get a cost analysis each month. This program helps enable us to see if we are operating at a profit/loss as well as MPLH. I was on the original group that helped develop the software, and I have used it since the beginning."

7. "Better and quicker financial aid."

8. "Better decision making, containing information from various sources to produce reports that I used to create with spreadsheets."

9. "I am better able to monitor how each site is performing. I can analyze trends. Staffing and TME data is helpful for staffing schools. Operating ratios assist with food and labor analysis. Commodity, purchased and supply data assist with trends and benchmarking, etc."

10. "Helps to capture financial information with a SNS designed software."

11. "I use the reports for our managers to look at on review, plate cost, and MPLH. I do not do my own budget so I don't use all the programs that are offered."

12. "Shows bottom line for each school. Shows operating ratios."

13. "Learned how the various parts of the program can help my operation."

14. "It allows me to see where every dollar is spent. For example, last month every site had a profit except for one. It was all in food. The report clearly showed that the site that lost money had spent a higher percentage of dollars on food. When I investigated the site, there was food wasted as well as over ordering too much inventory. Also, it allows me to keep a check on meals per labor hour. This is extremely important when deciding whether or not to replace an employee that leaves."

Respondents were divided as to whether using FUNDamentals has influenced their financial and operational decision making (Table 14). Eight respondents (47.1%) reported that the software had influenced their financial and operational decision making. The remaining nine (52.9%) indicated that FUNDamentals has not influenced their decision-making. Additional comments follow:

- "We use it to see if we have monies to spend on equipment by looking at our excess balance, etc."

- "Identified schools where participation was low and applied ideas and practices from schools where participation was high to greatly improve revenues."

- "It helped us look at where we needed to cut back to increase fund balance."

Table 14

NFSMI FUNDamentals Influence on Financial and Operational Decision-making (n= 17)

Influenced Financial and Operational Decision Making	Number	Percent
Yes	8	47.1
No	9	52.9

Program Characteristics

The majority (68.4%) of respondents were from the USDA Southeast Region (Table 15). Three (15.8%) responded from the Midwest Region, and two (10.5%) were from the Mid-Atlantic Region.

Table 15

USDA Regions (n=19)

USDA Region	Number	Percent
Western - AK, AZ, CA, GU, HI, ID, NV, OR, WA	0	0
Mid-Atlantic - DC, DE, MD, NJ, PA, PR, VA, VI, WV	2	10.5
Mountain Plains - CO, IA, KS, MO, MT, ND, NE, SD, UT, WY	0	0
Southeast - AL, FL, GA, KY, MS, NC, SC, TN	13	68.4
Midwest - IL, IN, MI, MN, O, WI	3	15.8
Southwest - AR, LA, NM, OK, TX	1	5.3
Northeast - CT, MA, ME, NH, NY, RI, VT	0	0

A majority (52.7%) of respondents were employed in small to medium-sized school districts (Table 16) having student enrollment of less than 20,000. The largest district reported student enrollment of 65,000 or greater.

Table 16

School District Student Enrollment (n=19)

School District Student Enrollment	Number	Percent
2,799 or less	3	15.8
2,800 to 9,999	6	31.6
10,000 to 19,999	1	5.3
20,000 to 44,999	6	31.6
45,000 to 64,999	2	10.6
65,000 or greater	1	5.3

The largest number of respondents indicated that the number of high schools, junior high/middle schools, and elementary schools in their district were within the range of having one to five schools in their districts (Table 17). Only one district had more than 50 junior high/middle or elementary schools.

Table 17

Number and Types of Schools in Districts (n=19)

Types of Schools	Number of Schools in District				
	1-5 Schools	**6-10 Schools**	**11-20 Schools**	**21-50 Schools**	**< 50 Schools**
High Schools	11	7	1	0	0
Junior High/Middle Schools	8	5	2	0	1
Elementary Schools	7	2	2	6	1

Of the 13 school districts responding, five served the largest percentage of paid meals (61-70%); eight districts served less than ten percent of reduced price meals; and four districts served 21-30% free meals (Table 18). An additional five percent served from 41-60% free meals to students.

Table 18

Percentage of Reimbursable Meals in Each Eligibility Category (n = 13)

Eligibility Category	Percentage of Reimbursable Meals Per School District							
	0-10%	**11-20%**	**21-30 %**	**31-40%**	**41-50%**	**51-60%**	**61-70%**	**71-80%**
Paid	1	1	2	1	2	0	5	1
Reduced	8	4	1	0	0	0	0	0
Free	1	1	4	0	2	3	1	1

Respondent Characteristics

Half (52.6%) of respondents indicated a job title of director. Another 10.5% had a job title of coordinator (Table 19). The rest were a variety of entries, such as secretary or nutrition business manager.

Table 19

Job Title (n=19)

Job Title	Number	Percent
Food Service Director	10	52.6
Coordinator	2	10.5
School Food Service Administrator	1	5.3
Administrative Assistant	1	5.3
Secretary	1	5.3
Food and Nutrition Specialist	1	5.3
Programmer	1	5.3
Nutrition Business Manager	1	5.3
Food Service Support Specialist	1	5.3

One-third of the respondents have worked in child nutrition programs from 11 to 15 years (Table 20). Only one respondent (5.6%) had worked in child nutrition less than six years. A majority of respondents (73.6%) have been in their current position from one to ten years, with one respondent (5.3%) having greater than 20 years tenure in their current position.

Table 20

Tenure in Child Nutrition Program and Current Position (n=18)

	1-5 years	6-10 years	11-15 years	16-20 years	< 20 years
Tenure in child nutrition programs	1	4	6	4	3
Tenure in current position	7	7	3	1	1

All respondents had completed at least a high school degree or a GED. Twelve (63.2%) of the 19 respondents to the survey had completed a Bachelor's degree or higher (Table 21).

Table 21

Educational Level of Respondents (n=19)

Educational Level	Number	Percent
High school diploma or GED	4	21.1
Associate's degree	3	15.8
Bachelor's degree	2	10.5
Some graduate credit	3	15.8
Master's degree	6	31.6
Graduate hours beyond Master's	1	5.3

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The initial response rate for the National Foodservice Management Institute (NFSMI) FUNDamentals survey was 36.4%. The original database listed the names of 225 individuals who had requested registration to use the NFSMI FUNDamentals software. The database was examined, and obvious errors and duplications were eliminated with 190 names and e-mail addresses remaining. A total of 190 surveys were transmitted, with 36 returned as undeliverable. Thus, 154 was the actual number of surveys sent to valid e-mail addresses. Of these, 56 responded to the survey. The first question of the survey asked if the respondent had completed the installation and set-up of the NFSMI FUNDamentals software. Only 32 respondents indicated that they had installed the software. The remainder (24) of the respondents had not installed the software. They were then asked the reason(s) they had not installed FUNDamentals. After completion of this question, they were led to exit the survey. The most common reason given by seven respondents for not installing the software was lack of time.

Thirty-two respondents answered the complete survey. Of these, the actual response rate of respondents who were qualified to answer questions about the operation of the software could be considered to be 20.8% (32). This response rate is considerably lower than the average for both paper and electronic surveys (Benjamin, 2009). A meta-analysis by Cook, et al (2000) determined an average response rate for electronic surveys was 39.6% and 55.6% for paper surveys. Additionally, throughout the survey, respondents did not answer many of the questions, and the highest response for any one question on the survey was 19. These are very small numbers from which to draw conclusions. Results should be interpreted very cautiously.

The respondents who installed the NFSMI FUNDamentals indicated that the process for installing the standard components of the software was easier to set-up than entry of individual district budget, personnel, and account information. When questioned about the quality of support and maintenance provided by the software vendor, Visual Solutions™, 85% reported that they had requested assistance and 70.6% were satisfied with the response they received. A majority (64.7%) plan to utilize FUNDamentals to analyze their program within the coming year. Most (68.4%) of the respondents consider FUNDamentals as "user friendly."

As many as 25 analyses were performed by respondents using the NFSMI FUNDamentals. However, in many instances, small numbers were using the variety of applications. The three most common uses of the software were profit/loss statement (94.1%); cost of food used (82.4%); and meals per labor hour (76.5%). Meal cost, food and labor costs as percent of total revenue, and meal equivalents all were analyzed by 12 (70.6%) of the respondents. No respondents reported using FUNDamentals to monitor overtime labor.

When asked to indicate their agreement with statements relating to FUNDamentals, the statement with which respondents strongly agreed (23.5%) or agreed (64.7%) was that FUNDamentals provides information needed to operate a cost effective SN program. The statement with the lowest agreement (43.7%) related to better inventory control.

The analyses by NFSMI FUNDamentals most frequently used by the participants were analysis of individual school operations (91.7%); sharing financial information with managers (91.7%); sharing selected information with school staff (66.7%); and reporting to school officials and school board (50.0%). FUNDamentals appeared to be an important tool for communication with a variety of audiences.

Respondents indicated that FUNDamentals assisted them in improving their management of the SN program through decreased time spent gathering and analyzing financial data (90.9%); improved staffing related to number of meals served (81.8%); and increased productivity (MPLH) (72.7%). Quicker inventory turnover (9.1%); decreased budget variances (9.1%); and increased ability to identify costs of participation in district wellness program (9.1%) were used the least.

When asked whether FUNDamentals influenced their decision-making, more respondents responded negatively (52.9%) than those who indicated that use of the software had influenced their financial and operational decision making (47.1%). Finally, respondents were asked if using FUNDamentals enabled them to better operate their SN program as a business. Several respondents commented that they were better able to compare individual schools to other similarly sized schools. Cost analyses also were cited by a few of the respondents. Not all considered the software helpful in managing their program as a business.

Recommendations

The results from this study can be used to assist in determining the usefulness of the NFSMI FUNDamentals software to SN professionals, and to determine if it is a viable management tool that should be maintained. The software was developed in 2000, and was released for general use in the summer of 2001. Because of the need for modifications and updates on a regular basis, a maintenance agreement with the software developer was initiated to provide installation, support, software updates, and general program maintenance (Cater & Clemons, 2005)

FUNDamentals is available to all SN programs in the nation. The software and basic maintenance package are free to SN programs. The analyses provide useful information to users,

and some find it a useful adjunct to other financial management tools. However, it is apparent that the software is not being utilized to its full potential, as only a small number of districts are using the software. To increase the use of the software would require an intense and prolonged marketing effort. The continuation of the software and the maintenance contract should be evaluated in terms of the costs and potential benefits.

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National Food Service Management Institute
The University of Mississippi
P. O. Drawer 188
University, MS 38677-0188
www.nfsmi.org

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