

CFO Vision™ at Centra Health, A Successful Partnership

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Introduction

CFO Vision™ for Financial Consolidation, Reporting and Analysis is a powerful financial decision support application. Fundamental to CFO Vision are a data warehouse, the management of this information using multidimensional structures, a sophisticated journal entry system, and OLAP (On Line Analytical Processing) enabling technology for analysis. This product was developed as part of SAS Institute's Business Solutions initiative. CFO Vision is a client/server-based multi-user application, with the clients running on Windows platforms and the server available on Windows NT. CFO Vision was built using standard SAS® software tools.

CFO Vision was developed to empower business managers by allowing them to perform strategic management reporting and analysis. To accomplish this, the development team partnered with customers. This partnership relationship allowed the customers to directly influence the direction of the product and provided valuable feedback throughout the development cycle to the development team at SAS Institute.

One of the first development partners who worked with SAS Institute and the CFO Vision development team is Centra Health. Centra Health is the primary health care provider in central Virginia. This paper describes the implementation process of CFO Vision at Centra Health. Topics covered include:

- ♣ the software selection process
- ♣ Centra's business models, reports, and source data
- ♣ Centra's reach-through application
- ♣ working with SAS Institute
- ♣ summary of the benefits

The Software Selection Process

Centra Health selected CFO Vision after evaluating several consolidation and reporting software packages. The Centra Health team researched packages that could meet their needs. They generated a list of five options:

- Use SAS software to write an application in-house
- Purchase Dun & Bradstreet's replacement for Reporting Utilities, called SmartStream
- Make the necessary changes to Dun & Bradstreet's Reporting Utilities in-house
- Purchase Hyperion
- Purchase CFO Vision

Centra Health selected CFO Vision as their solution for several key reasons. SAS Institute is the only vendor to offer customizable "reach-through" back to transactional and relational data sources so that you can see the specific detail behind a critical variance. Centra's reach-through application is described in detail later in this paper. In addition, Centra selected CFO Vision because of the flexibility to customize and extend the application. CFO Vision is surrounded by the SAS System toolkit and architecture which allows you the flexibility to handle not only your current vision and decision support needs, but those unanticipated changes as your business grows. Finally, Centra selected CFO Vision because of the strong relationship Centra has with SAS Institute. Centra has been a SAS customer since 1994. They know that the entire team at SAS Institute is committed to meeting the decision support needs of Centra Health now and in the future.

Based on this recommendation, Centra Health purchased CFO Vision Version 1 in October 1997, and began the internal development process. This process included gathering together a group of management users to provide input on the content within CFO Vision. Together, the Centra Health Advisory and Development Team worked to identify how CFO Vision could be most beneficial to its end users. Centra Health went live with Version 2.0 in April 1998. This release included a number of modifications made by SAS Institute specifically in response to feedback from Centra Health.

In September 1998, the Centra Health development team sent surveys to all CFO Vision users asking their opinion of CFO Vision and its value as a tool for managing their departments. The results were very positive. First, users were asked to rate the usefulness of various sections of CFO Vision, including the Budget Variance Report, the Analytical Viewer, and reach-through capability on a scale of 1 (Not Useful) to 5 (Very Useful). The average response for all three sections of the system was 4. Second, users were asked how helpful they felt additional training on CFO Vision would be. The questions included “refresher” training, advanced training, and periodic user group meetings. Again, on a scale of 1 (Not Helpful) to 5 (Very Helpful), the average response was 4 for each type of training. Finally, users were asked to rate how beneficial it is to receive their financial information electronically as opposed to on paper. On a scale of 1 (Not Beneficial) to 5 (Very Beneficial), the average response was 3.

In October 1998, Centra upgraded to CFO Vision Version 2.1. Along with the installation of this new version, the Centra Health development team implemented changes within the report books to make information easier to access. These changes, as well as improvements within the new software version, greatly increased the speed of accessing information within CFO Vision.

CFO Vision meets the following functionality requirements identified in Centra Health’s initial research about obtaining a new financial reporting system:

- Provides end users easier access to financial data because the data is updated daily, therefore is available throughout the month/quarter
- Provides data in a PC-based, point-and-click system
- Provides improved analytical capabilities at both organizational and departmental levels
- Provides the ability to view data online
- Provides the ability to manipulate data in a spreadsheet-like environment
- Provides the ability to export data into a spreadsheet for further analysis
- Provides the ability to view detail data behind the summarization on the General Ledger in a customized environment
- Provides Purchase Order and Receipt Accounting data on a daily basis
- Ability to customize and extend the application
- Stable vendor with which we have a strong, sustained relationship
- Continued growth and improvement of the system

Currently, there are 177 users of CFO Vision at Centra Health. With the initial rollout of CFO Vision, users received three hours of training explaining the basic functionality of the system. In addition, the development team has sponsored two user group sessions designed to answer specific questions regarding CFO Vision. In response to the survey conducted last September, the development team plans to offer “refresher” courses and advanced courses in CFO Vision. In addition, the Centra Health development team will continue to offer quarterly user group meetings.

Implementation of CFO Vision at Centra Health

Centra Health takes full advantage of the multidimensional model in CFO Vision, thus providing their users the ability to view their business from all angles and perform interactive financial analysis. This enables the users to find trends and patterns of resource utilization. Centra

defined a collection of business models to provide their users with the information needed to analyze their opportunities and risks.

Centra Health Incorporated is comprised of a parent company, four subsidiaries, and two partnerships. They implemented nine business models (structures) to monitor their core business, subsidiaries and partners. At the headquarters level, they have 3 structures. The Management structure organizes the data by cost center management reporting responsibility. The Financial structure organizes the data by reporting requirements dictated by GAAP standards. The Operating Summary structure organizes the data to report key performance indicators, which is used by the Board of Directors. There are six additional structures for GAAP reporting for each subsidiary and partnership.

Each of these structures contains four dimensions. A dimension is a group of data organized hierarchically into categories. The following dimensions are in each of Centra's structures:

Account dimension - the general ledger account numbers are grouped according to how Centra Health defines and reports the financial data. Centra Health uses the American Hospital Association guideline in organizing these accounts.

Organization dimension – contains the cost centers.

Time dimension – Centra Health tracks two prior years of data as well as the current year. In addition, they group months into quarters, which roll to fiscal years.

Analysis dimension – Centra Health tracks Actual and Budget financial data.

The data sources that are imported into the CFO Vision financial data warehouse are described below:

General Ledger information – Centra Health captures the actual, budget, cost allocations and statistical data from GEAC (Dunn & Bradstreet) E-Series General Ledger System.

Accounts Payable information – Centra Health captures all invoicing data from GEAC (Dunn & Bradstreet) E-Series Accounts Payable System

Inventory information – Centra Health captures all available data from the GEAC (Dunn & Bradstreet) E-Series Inventory System

Receipt Accounting information – Centra Health captures all data from GEAC (Dunn & Bradstreet) E-Series Purchasing System at month end and on a daily basis.

Purchase Order information – Centra Health captures all purchase order information from GEAC (Dunn & Bradstreet) E-Series Purchasing System when a purchase order has been initially issued.

CFO Vision is used to consolidate the financial data warehouse on a daily basis. The requirement is that all managers will have access to the updated reports in CFO Vision by 8:00 am each working day.

Centra Health currently has developed approximately 130 report books containing standard reports. These books contain key performance indicators for Centra Health. Report books are stored online in CFO Vision and can be viewed interactively or printed. The books Centra Health maintains fall into three categories: Management, Financial, and Operating & Statistical Summary. The Management books are created for every Department Director and Vice President. Each of these books contain a monthly budget variance, a quarterly budget variance, and a quarterly productivity report for every department that reports to that Director or Vice President. The Financial books are created for every company. Each of these books contain a balance sheet and income statement. The Operating & Statistical Summary books contains all

patient statistics, departmental statistics, employee statistics and various accounting ratios. In addition to these centrally provided reports, users of CFO Vision are able to create their own reports. So financial managers no longer have to rely on IT staff to create reports for them.

The Centra client/server environment utilizes a Windows NT server and Windows 95 clients. The server is an IBM with 4 Pentium Pro 200 mhz processors, 512 Meg of Ram running NT 4.0. The client PCs are IBM PS/2 133 mhz boxes with 32 megabytes of RAM running Windows 95. Centra has a 16 megabit token ring network. In addition, several users are remote and use Citrix WinFrame Version 1.7 dialup software to access their reports in CFO Vision.

Centra Health's Reach-Through Design

From the standard reports distributed in the report books, users can launch the analytical viewer to further analyze the information. At this point the data is consolidated, which is appropriate for financial statement generation and basic department budget variance reporting. However, the department managers and financial analysts at Centra Health also need to be able to access the detailed data to give them more specific information. Prior to implementing CFO Vision, this information was distributed via printed mainframe reports.

In addition to being able to produce financial statement and budget variance reports in CFO Vision, Centra Health also wanted to eliminate these printed management reports and provide all of this detail data in CFO Vision. Centra Health was able to accomplish this by implementing and customizing the reach-through functionality built into CFO Vision.

To reach-through (called drill-through in CFO Vision), the user opens a consolidation in the analytical viewer in CFO Vision. They drill-down into the consolidation and subset the data until they get to the information they would like to analyze. Once they are at the appropriate cell, they "reach-through" to the corresponding detail data by highlighting the cell and selecting the right mouse button. The following pop-up menu is displayed:

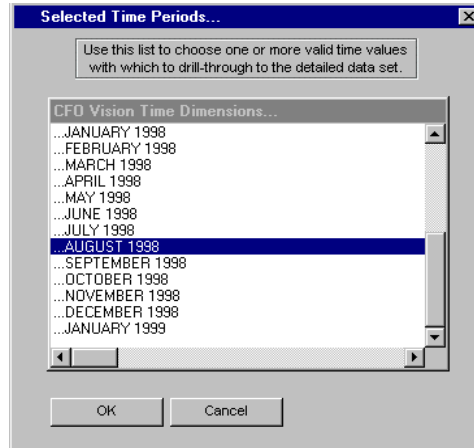
The screenshot shows the CFO Vision application window titled "CENTRA HEALTH, INC., ALL YEARS, CENTRA HEALTH MANAGEMENT STRUCT". The main window displays a table with the following structure:

	CURRENT MONTH			PRIOR YEAR		YEAR-TO-DATE	
	ACTUAL	BUDGET	% VAR	ACTUAL	PY % VAR	ACTUAL	BUDGET
54046300 OFFICE SUPPLIES - MIS	0	0	0	0	0	0	0
55046000 OFFICE SUPPLIES	0	0	0	0	0	0	0
55046300 OFFICE SUPPLIES - MIS	0	0	0	0	0	0	0
56046000 OFFICE SUPPLIES	1,135	1,352	(16)	1,005	13	19,117	10,816
56046300 OFFICE SUPPLIES - MIS	21,227	18,680	68	20,204	55	157,039	149,512
57046000 OFFICE SUPPLIES	0	0	0	0	0	0	0
57046300 OFFICE SUPPLIES - MIS	0	0	0	0	0	0	0
58046000 OFFICE SUPPLIES	0	0	0	0	0	0	0
51047000 EMPLOYEE WEARING APPAREL	0	0	0	0	0	0	0
52047000 EMPLOYEE WEARING APPAREL	0	0	0	0	0	0	0
53047000 EMPLOYEE WEARING APPAREL	0	0	0	0	0	0	0
53047200 OSHA REUSABLES - APPAREL	0	0	0	0	0	0	0
54047000 EMPLOYEE WEARING APPAREL	0	0	0	0	0	0	0
54047200 EMPLOYEE WEARING APPAREL	0	0	0	0	0	0	0
55047000 EMPLOYEE WEARING APPAREL	0	0	0	0	0	0	0
55047200 OSHA REUSABLES - APPAREL	0	0	0	0	0	0	0
56047000 EMPLOYEE WEARING APPAREL	0	0	0	0	0	0	0

A context menu is open over the cell for "56046300 OFFICE SUPPLIES - MIS". The menu items are:

- Dimensions ->
- Drill ->
- Expand ->
- Collapse ->
- Subset...
- Format ->
- Notes...
- Sort/Filter...
- Drill Through...
- Computed Values ->
- Labels ->
- Hide
- UnHide ->
- Rolling Period ->

The user selects Drill Through and the following screen is displayed



This screen allows the users to select the time period they are interested in. By default, the time period is set to time period represented by the data in the analytical viewer. The user can accept this default, change to a different month, or select multiple months. Once the user chooses a time period and selects OK, the reach-through AF Frame below is displayed.

Drill Through Detail Data...

Daily Receipt Accounting P.O. Commitments

General Ledger Inventory Accounts Payable Receipt Accounting

Account	Co/Center	Date	Amount	Source	Description
56046300	0001/0308231	1998/08	15,715.49	ACCOUNTS PAYABLE	
56046300	0001/0308231	1998/08	2,805.41	INVENTORY	
56046300	0001/0308231	1998/08	-8,906.48	RECEIPT ACCOUNTING	
56046300	0001/0308231	1998/08	21,707.10	RECEIPT ACCOUNTING	

Return

Centra Health chose to use the SAS/AF Tab Layout object in a frame to display their reach-through data. There is a separate tab for each data source: General Ledger, Inventory, Accounts Payable, Receipt Accounting, Daily Receipt Accounting, and Purchase Orders. By default, the general ledger tab is the first displayed. This tab shows all the general ledger postings, indicates which system contributed the data, and shows any notes entered by the accountant if the posting was a journal entry.

The user can select the tab for one of the feeding systems and see the data in detail. For example, they can see the invoices that made up the summarized Accounts Payable entry as show below:

Drill Through Detail Data...

Daily Receipt Accounting				P.O. Commitments		
General Ledger		Inventory	Accounts Payable	Receipt Accounting		
Account	Co/Center	Date	Inv Amount	Vendor	Vendor #	#####
56046300	0001.0308231	1998/08	1,897.63	PROFORMA GRAPHIC RESOURCES	*510162638	
56046300	0001.0308231	1998/08	248.08	PROFORMA GRAPHIC RESOURCES	*510162638	
56046300	0001.0308231	1998/08	598.90	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	670.40	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	598.90	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	304.40	OWENS & MINOR	05122	
56046300	0001.0308231	1998/08	875.20	OWENS & MINOR	05122	
56046300	0001.0308231	1998/08	598.90	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	875.20	OWENS & MINOR	05122	
56046300	0001.0308231	1998/08	718.68	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	670.40	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	1,353.38	PROFORMA GRAPHIC RESOURCES	*510162638	
56046300	0001.0308231	1998/08	155.82	STANDARD REGISTER CO	04761	

Return

Note the reach-through data contains much more detailed information than the consolidated data in CFO Vision. For example, the detailed data contains PO number, Vendor number, and Invoice status. This allows the business managers to get answers to their queries at the click of a mouse rather than having to go through printed reports. All of the departmental managers and financial analysts now obtain their information each month online via CFO Vision.

In addition to displaying the data to the users online, Centra Health also provides the users with the ability to manipulate and analyze this data. To access this functionality, the user selects the right mouse button and the following pop-up menu is displayed:

Drill Through Detail Data...

Daily Receipt Accounting				P.O. Commitments		
General Ledger		Inventory	Accounts Payable	Receipt Accounting		
Account	Co/Center	Date	Inv Amount	Vendor	Vendor #	#####
56046300	0001.0308231	1998/08	1,897.63	PROFORMA GRAPHIC RESOURCES	*510162638	
56046300	0001.0308231	1998/08	248.08	PROFORMA GRAPHIC RESOURCES	*510162638	
56046300	0001.0308231	1998/08	598.90	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	670.40	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	598.90	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	304.40	OWENS & MINOR	05122	
56046300	0001.0308231	1998/08	875.20	OWENS & MINOR	05122	
56046300	0001.0308231	1998/08	598.90	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	875.20	OWENS & MINOR	05122	
56046300	0001.0308231	1998/08	718.68	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	670.40	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	1,353.38	PROFORMA GRAPHIC RESOURCES	*510162638	
56046300	0001.0308231	1998/08	155.82	STANDARD REGISTER CO	04761	

Return

Pop-up menu options:

- Show Total...
- Where...
- Clear Where
- Sort Data...
- Reset Sort
- Export to Excel

The first function shows a grand total for each of the numeric fields being displayed on that tab, as shown below:

Drill Through Detail Data...

Daily Receipt Accounting				P.O. Commitments		
General Ledger		Inventory	Accounts Payable		Receipt Accounting	
Account	Co/Center	Date	Inv Amount	Vendor	Vendor #	#####
56046300	0001.0308231	1998/08	1,897.63	PROFORMA GRAPHIC RESOURCES	*510162638	
56046300	0001.0308231	1998/08	248.08	PROFORMA GRAPHIC RESOURCES	*510162638	
56046300	0001.0308231	1998/08	598.90	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	670.40	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	598.90	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	304.40	OWENS & MINOR	05122	
56046300	0001.0308231	1998/08	875.20	OWENS & MINOR	05122	
56046300	0001.0308231	1998/08	598.90	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	875.20	OWENS & MINOR	05122	
56046300	0001.0308231	1998/08	718.68	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	670.40	UNISOURCE	*211151336	
56046300	0001.0308231	1998/08	1,353.38	PROFORMA GRAPHIC RESOURCES	*510162638	
56046300	0001.0308231	1998/08	155.82	STANDARD REGISTER CO	04761	
			Total Inv Amount = \$15,715.49			

Return

The Where function, allows the user to further subset the data being displayed within the reach-through table by creating a Where clause in a point-and-click environment. The user can clear the Where clause applied by this function by selecting the Clear Where menu item. The following window is displayed when the Where function is selected:

CFO Vision

Set Where...

Available Columns

- GL Extract Date
- Pay Entity
- Buy Entity
- PO Line
- PO Line Qty
- PO Line Unit
- Unit Price
- PO Amount
- Buyer ID
- Buyer
- Req#/Line#
- Catalog #

Operators

OK

Undo

Help

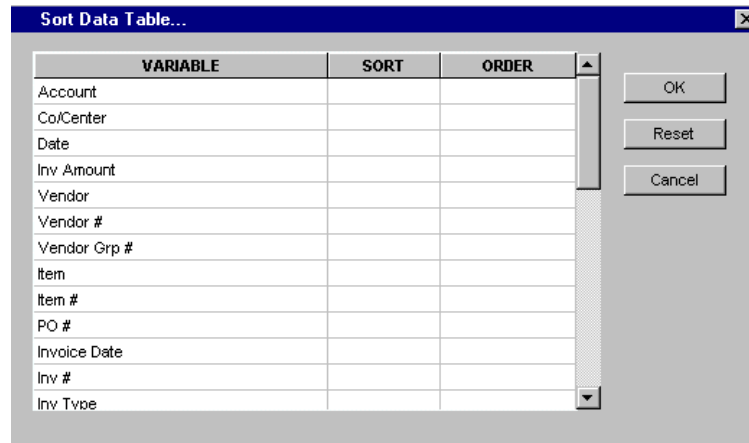
Reset

Cancel

Where

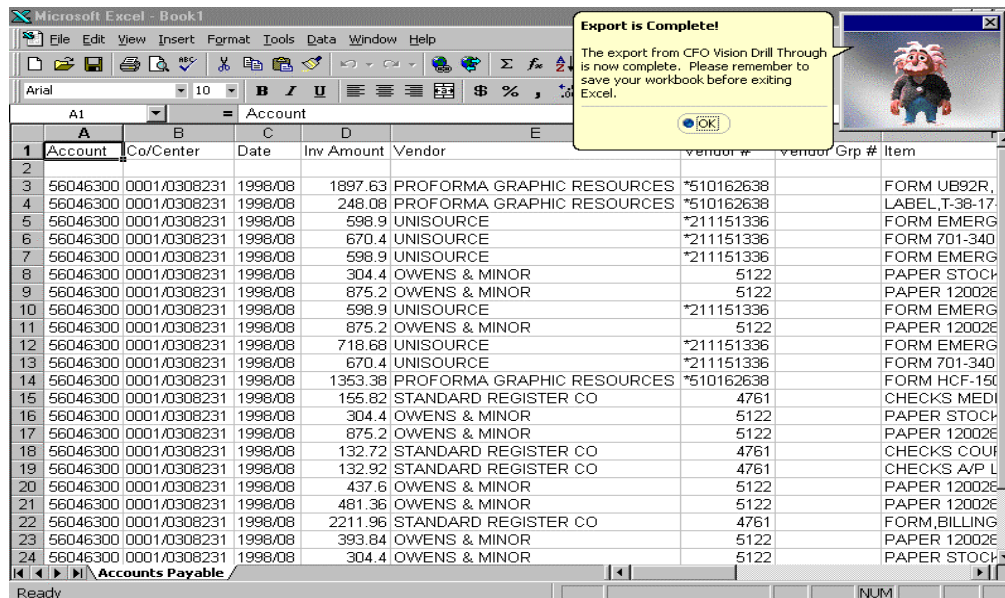
Vendor EQ 'OWENS & MINOR'

In addition, the user can sort the data in either ascending or descending order by selecting the Sort function. Once this function is selected, a Sort definition window is displayed:



On this screen, the user can choose which fields to sort on and the sort order. To return the table back to its original sort order the user can select the Reset Sort menu item.

Finally, the user can choose to Export to Excel, to load an Excel spreadsheet with the contents of the reach-through table. Once they select this function, Excel is automatically launched and the data is loaded into a spreadsheet. An Excel Office Assistant then appears reminding the user to save the spreadsheet before exiting Excel. Once they close Excel, they return to the reach-through screen in CFO Vision. Below is the screen displayed during the Export to Excel process:



With access to all of the detail reach-through data and with the tools built into the reach-through Tab layout object, business managers at Centra Health now have a powerful financial decision support tool.

Working with SAS Institute

Implementing a new application does not come without a few “challenges”. However the developers, consultants, technical support, and account representatives all are committed to making Centra Health successful. For example when Centra was preparing for their first internal CFO Vision training session, they ran into a client/server issue which would limit the number of users which could attend the session. Centra contacted SAS Institute and a member of the

development team immediately went to Centra that afternoon and worked alongside the Centra development team until the early morning hours. Together we identified the problem. The development team worked on a fix and Centra helped the CFO Vision development team validate the code in a 'live' environment. Centra Health now has 177 total users running CFO Vision.

Another example of the teamwork between Centra and SAS Institute is the development of the reach-through application. The Centra development team designed the requirements for the reach-through application. Centra then contracted with SAS Institute to formalize and finalize the design and to complete the implementation of the reach-through application. Centra provided the vision and insight, while the SAS consultants provided the specialized experience of working with CFO Vision. Together, they produced a powerful tool used by all users at Centra.

Centra also provided valuable feedback to the development team. In the course of building their report templates and books, Centra made several requests/suggestions to make it easier to create and maintain presentation quality reports. Some of these items include:

- Being able to handle administrative tasks at a global level
- Fast find in reporting window
- Set reporting period in book
- Creating custom macros and formats
- Being able to display the value of the reporting period as a field in the book
- Additional formatting enhancements

As a direct result of this interaction between Centra and SAS Institute many of these features are now included in CFO Vision Version 2.1. For those items that were specific to Centra Health, SAS consultants worked with Centra to produce customized solutions.

Summary

The implementation of CFO Vision at Centra Health is the result of a successful partnership between Centra Health and SAS Institute. With CFO Vision and the reach-through application in the hands of Centra Health's department managers, the key information is now available for them to make the day to day decisions. The analysis of the data is now performed directly by the business managers rather than having to rely on overloaded finance and IT staff. The reach-through application provides the users with information that has not been available in the past. As the Vice President of Finance at Centra Health concludes, "The key benefit for us has been that it is more than a tool for the finance department. It's an operational management system for our managers to run their business."

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