

Selecting the Right Accounting Software for the Small Business

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Abstract

The market for entry-level accounting software is huge. The small business needs accurate, reliable, and timely financial information to succeed in the competitive e-business environment. However, with numerous alternatives, including web-based accounting software, the selection of the right entry-level accounting software package is a difficulty decision. This study uses Data Envelopment Analysis (DEA) to analyze and compare the performance of several leading entry-level accounting software packages. The DEA model connects costs (inputs) with capabilities/services (outputs) to evaluate the performance of an individual software package relative to its peer group. The findings of this study should provide accountants and owners of small businesses with a tool for non-subjective assessments of entry-level accounting software packages. With the proliferation of e-business systems, we are seeing an increasing offering of Web-based accounting systems/services. For the small business, web-base accounting system has become a viable alternative to the traditional accounting system. The pros and cons of using web-based accounting software are also presented in this study.

1. Introduction

The market for entry-level accounting software is huge. The small business needs accurate, reliable, and timely financial information to succeed in the competitive e-business environment. However, with numerous alternatives including web-based accounting software available the selection of the right entry level accounting software package is a difficulty decision. As a consequence, the role of the accountant has changed from system designer to system evaluator. Frequently, the “best” software is not readily apparent. The accountant must gather relevant information from vendors and other sources in order to compare software based on their relative merits. Oftentimes, the software selection decision relies on the accountant’s judgment and the strength of the sales pitch.

However, human judgment is not perfect. Individuals have difficulty in processing numerous attributes of the competing software packages.

Additionally, individual biases may affect the decision. Furthermore, the accountant is confronted with rapidly changing products which means that the decision must be frequently reevaluated. The accounting software evaluator needs tools to help him make an objective decision.

The purpose of this study is to provide assistance to accountants and small business owners in the evaluation and selection of accounting software. More specifically, this effort employs Data Envelopment Analysis (DEA) as a decision support tool to analyze and compare the performance of several leading entry-level accounting packages. The DEA model connects costs (inputs) with capabilities/services (outputs) to evaluate the relative performance of individual software packages. DEA does not require a set of pre-assigned weights for inputs and outputs and, thus, overcomes the deficiency introduced by using arbitrary weights. The findings of this study provide accountants and owners of small businesses with a tool for non-subjective assessments of entry-level accounting software packages. With the proliferation of e-business systems, we see an increasing offering of Web-based accounting systems/services (see http://www.b2business.net/Business_Resources/Accounting). For small businesses, web-base accounting system has become a viable alternative to the traditional accounting system. In this study we will examine the pros and cons of web-based accounting software.

The rest of the paper is organized as follows. Section two discusses accounting software for the small business and section three gives a brief description of the DEA model. Section four presents the data set and evaluates several leading accounting software packages for small businesses using the DEA model. Section five discusses the pros and cons of web-based accounting software for small business. Section six offers the concluding comments with emphasis on e-business systems.

2. Accounting Software for Small Business

Recent developments in accounting software are having a profound impact on the work of the accountant. For many small businesses, accounting software has replaced paper and pencil as the primary means of recording, classifying, and analyzing business transactions. With accounting software, data can be

quickly and accurately recorded with immediate audit trails, controls, and reports. The evolution of accounting software has led to a wide range of products. Accounting software for small business now has full featured accounting and payroll packages with all the features and reports that meet the needs of a small business, including web-based features.

At the core of every accounting system is the general ledger (GL) that provides an initial recording of financial transactions and then summarizes the transactions in form of financial statements form. The general ledger is normally supported by other modules, including accounts receivable (AR), accounts payable (AP), payroll (PR), inventory (Inv), job cost (JC), order entry (OE), general system (Gen), and multi-language (Multi). These common capabilities are supported by various features that determine the quality of individual accounting software. The accountant must evaluate these features in forming his decision.

Data Envelopment Analysis (DEA) can be used as a decision support tool to assist the accountant in choosing the right software. It has been successfully applied as a decision support tool to improve bank branch productivity [2, 6, 16, 17] and health maintenance organization services [3, 9, 12], to select mutual funds [13], to evaluate software [8, 11] and software projects [5, 12, 14], to rank ERP systems [10], and to compare operational performance of airlines [15].

3. Data Envelopment Analysis

Data Envelopment Analysis (DEA) is a non-parametric methodology. It requires neither an explicit formulation of the underlying functional relationship nor pre-assigned weights for attributes (inputs and outputs) to arrive at an overall score for each ERP package under evaluation. Therefore, it overcomes the deficiency introduced by using arbitrary weights in

evaluating a production operation in a multiple-output, multiple-input setting [4, 17]. Thus, DEA can avoid certain theoretical and computational problems.

DEA can be used as a decision support tool to assist accountants and small business owners in identifying the best accounting software to meet their business requirements and needs. The main advantage of DEA is its ability to explicitly take into account the use of multiple inputs (costs) to provide multiple outputs (benefits). DEA also helps to minimize the complexity of analysis by simultaneously evaluating the attributes of interest and presenting a single, composite score, referred to as an efficiency score.

DEA was developed by Charnes et al. [1979] to evaluate the performance of multi-input and multi-output production operations. The analytical and computational capacities of DEA are firmly based on mathematical theory. Using the simple DEA model, each production operation is evaluated with weights that are the most favorable for its own aggregate performance. A theoretical discussion of various models of DEA is beyond the scope of this paper. Suffice to say, the version presented by Charnes et al. [1991] provides a more general approach than the other versions of DEA. In our study, we adopted the approach proposed by Charnes et al. to restricting weight flexibility and chose the BCC (Banker, Charnes, and Cooper) model with constant return to scale [11].

4. Evaluation of entry-level accounting software

The primary data source for this study is <http://www.accountingsoftwareadvisor.com>. The selected entry-level accounting software packages and their corresponding websites are presented in Table 1.

Table 1: Entry-level accounting software

<u>Product</u>	<u>Web Address</u>
ACCPAC Vision Point	http://www.accpac.com/products/finance/vp/
BusinessVision 32	http://www.businessvision.com/products/bv32/
BusinessWorks Gold	http://www.bestsoftware.com/businessworks/index.cfm
Red Wing	http://www.redwingsoftware.com/
BusinessVision 2000	http://businessvision.com/
Peachtree 2000	http://www.peachtree.com/
UA Corporate Accounting	http://www.2020software.com/products/UA_Corporate_Professional.asp
DAC EASY (Best)	http://www.daceasy.com/daceasy/default.asp
MYOB	http://www.myob.com.au/products/accounting/
Peachtree Complete Acct	http://www.peachtree.com/
QuickBooks Pro 2002	http://www.quickbooks.com/
APPGEN Business Software	http://www.appgen.com/
QuickBooks 2002	http://www.quickbooks.com/
ACCPAC Simply Acct	http://accpac.com/products/finance/default.asp

Table 2 presents data for each accounting software drawn from <http://accountingSoftwareAdvisor.com> (ASA). ASA evaluated the 350 most important features

(<http://www.accountingsoftwareadvisor.com/topics/topfeatures.htm>) in accounting software and assigned either 1 or 2 points to each of these features based on their

importance. Features are grouped by modules and total points for modules are presented in Table 2. The ASA

rating in column one is the sum of the points awarded to each module.

Table 2: Features and modules of entry-level accounting software

<u>ASA</u>	<u>Product</u>	<u>GL</u>	<u>AP</u>	<u>AR</u>	<u>PR</u>	<u>Inv</u>	<u>JC</u>	<u>OE</u>	<u>Gen</u>	<u>Multi</u>
235.5	ACCPAC Vision Point	41.5	37.3	19.8	18.3	49.8	10.0	33.8	22.3	3.0
232.8	BusinessVision 32	44.5	29.5	31.0	19.3	58.5	6.8	26.0	16.3	1.0
215.5	BusinessWorks Gold	34.3	29.0	32.5	15.5	58.8	13.5	13.5	18.5	0.0
170.8	Red Wing	30.0	24.0	17.8	16.0	50.0	9.8	14.3	9.0	0.0
157.0	BusinessVision 2000	34.8	14.8	19.8	13.3	43.3	3.0	16.8	10.5	1.0
152.0	Peachtree 2000	31.0	25.0	20.0	12.0	39.0	10.0	11.0	4.0	0.0
143.0	UA Corporate Accounting	51.0	39.0	26.0	7.0	16.3	-	3.8	-	0.0
137.0	DAC EASY (Best)	25.0	23.0	19.0	15.0	36.0	3.0	11.0	5.0	-
129.0	MYOB	32.0	23.0	19.0	7.0	23.0	2.0	6.0	15.0	2.0
99.0	Peachtree Complete Acct	17.0	19.0	15.0	9.0	19.0	1.0	8.0	11.0	-
78.0	QuickBooks Pro 2002	28.8	17.0	12.0	10.8	5.5	-	-	3.0	1.0
77.0	APPGEN Business	17.0	14.0	13.0	4.0	21.0	-	6.0	2.0	-
77.0	QuickBooks 2002	28.8	17.0	12.0	10.8	5.5	-	-	3.0	-
65.0	ACCPAC Simply Acct	18.0	10.0	12.0	7.0	3.0	-	7.0	7.0	1.0
41.0	ePeachtree	9.0	6.0	11.0	8.0	6.0	-	-	1.0	-

Source: <http://accountingSoftwareAdvisor.com>

Table 3 lists the price of each accounting software by number of users. The source is again ASA. However, when the price of a product is missing, we would conduct a search to find the price from vendor site or a reseller site to complete the table as much as we can.

As mentioned earlier, the DEA model evaluates all ERP packages or DMUs consecutively. Each ERP package is compared with the other packages and an efficiency score for this package is generated in reference to a set of best-value packages or the reference set. An efficient or best-value package has an efficiency score of 1. A package with an efficiency score of less than 1 is less

4.1 Performance Evaluations

Table 3: Prices of entry-level accounting software

<u>Accounting Software</u>	<u>1 User</u>	<u>5 User</u>	<u>10 Users</u>	<u>25 Users</u>
ACCPAC Vision Point	\$3,600	\$3,600	\$3,600	\$3,600
BusinessVision 32	\$199	\$5,495	\$6,790	\$10,670
BusinessWorks Gold	\$3,760	\$4,750	\$5,255	\$6,745
Red Wing	\$795	na	na	na
BusinessVision 2000	\$995	\$995	\$1,990	na
Peachtree 2000	\$1,650	\$2,530	\$2,930	\$2,930
UA Corporate Accounting	\$7,245	\$7,245	\$7,245	na
DAC EASY (Best)	\$250	\$500	na	na
MYOB	\$236	\$647	\$1,142	na
Peachtree Complete Acct	\$270	\$557	\$557	\$557
QuickBooks Pro 2002	\$250	\$690	na	na
APPGEN Business Software	\$995	\$995	\$995	na
QuickBooks 2002	\$180	na	na	na
ACCPAC Simply Acct	\$169	na	na	na

Source : <http://www.accountingsoftwareadvisor.com/main/pricing.htm>

Table 4: Efficiency scores and rankings of entry-level accounting software

<u>Accounting Software</u>	<u>Single User</u>		<u>5 User</u>		<u>10 Users</u>		<u>25 Users</u>	
	Efficiency Score	Ranking	Efficiency Score	Ranking	Efficiency Score	Ranking	Efficiency Score	Ranking
ACCPAC Vision Point	0.1256*	11**	0.1431	10	0.1733	4	0.2640	3
BusinessVision 32	1.0000	1	0.0521	12	0.0582	8	0.0676	6
BusinessWorks Gold	0.1056	12	0.0969	11	0.1078	7	0.1311	4
Red Wing	0.3614	8	na		na		na	
BusinessVision 2000	0.1770	10	0.2620	5	0.1641	5	na	
Peachtree 2000	0.1785	9	0.1458	9	0.1621	6	0.2707	2
UA Corporate Accounting	0.0361	14	0.0451	13	0.0573	9	0.0957	5
DAC EASY (Best)	0.6369	6	0.4697	2	na		na	
MYOB	1.0000	1	0.5025	1	0.3822	2	na	
Peachtree Complete Acct	0.5196	7	0.3765	3	0.5324	1	1.0000	1
QuickBooks Pro 2002	0.6434	5	0.3528	4	na		na	
APPGEN Business Software	0.1042	3	0.1750	6	0.2652	3	na	
QuickBooks 2002	0.7526	4	na		na		na	
ACCPAC Simply Acct	0.8522	3	0.1733	78	na		na	

* Efficiency Score

** Ranking

desirable relative to a reference set of best-value packages. Thus, efficiency scores help accountants to identify the accounting software packages that provide the greatest return in terms of per dollar.

Each module in Table 2 was treated as an output and data in Table 3 were used as inputs. To begin with, we evaluated all the packages. The DEA efficiency scores together with the rankings are presented in Table 4. Packages with efficiency scores of 1 are of best-value in the sense that these packages provide better performance with lower costs than others do. The DEA results show that for single user, BusinessVision 32 and MYOB are ranked top followed by ACCPAC Simply Acct and QuickBooks 2002; for 5 users, MYOB ranks the top followed by DAC EASY; for 10 users, Peachtree Complete Accounting ranks the top and MYOB ranked the second; and for 25 users, Peachtree Complete Acct again ranks the top followed by Peachtree 2000. MYOB was not ranked for 25 users due to no data available. To summarize, MYOB consistently ranked highest among single to 5 users and ranked the second for 10 users package. Unfortunately there is no data available from MYOB for 25 users product. Peachtree Complete Acct

ranked on top for both 10 and 25 users. The changes in rankings among different user products are mainly due to the different pricing structures of the software. For example, Peachtree Complete Acct charges a flat rate for multiple users while MYOB almost doubles the charges when moving from 5 to 10 users. Therefore, the rankings of MYOB dropped to second whereas Peachtree Complete Acct moved up to number one for 10-users product.

However, prices of some of the packages labeled entry-level by ASA are considerably higher than those of the low-end packages. Therefore, we eliminated four high prices packages, ACCPAC Vision Point, Business Vision 32, Peachtree 2000, and UA Corporate Accounting, and arrived at a different set of efficiency scores that are presented in Table 5. For single user, BusinessVision 32 and MYOB are the “best value” followed by ACCPAC Simply Acct and QuickBooks 2002; for 5 users, DAC EASY is the best buy followed by MYOB; for 10 users, Peachtree Complete Accounting is the best buy and MYOB is again ranked second.

Table 5: Efficiency scores and rankings of low-end accounting software

<u>Accounting Software</u>	<u>Single User</u>		<u>5 User</u>		<u>10 Users</u>	
	Efficiency Score	Ranking	Efficiency Score	Ranking	Efficiency Score	Ranking
BusinessVision 32	1.0000	1	-*		-	-
Red Wing	0.3614	7	na		na	
BusinessVision 2000	0.1823	9	0.3973	5	-	
DAC EASY (Best)	0.6632	5	0.7210	1	na	
MYOB	1.0000	1	0.7090	2	0.6455	2
Peachtree Complete Acct	0.5531	6	0.5934	3	1.0000	1
QuickBooks Pro 2002	0.6778	4	0.5503	4	na	
APPGEN Business Software	0.1191	9	0.3091	6	0.5649	3
QuickBooks 2002	0.8125	3	na		na	
ACCPAC Simply Acct	0.9257	2	-		na	

* Not considered as low-end

There is not enough data available for 25 users therefore no rankings were performed. The rankings for the other three products are very consistent with that of all fourteen packages. According to ASA, the top entry-level accounting software systems are: BusinessVision 32, Small Business Manager, MYOB, Peachtree Complete Accounting 2004, QuickBooks Pro 2003, Simply Accounting, and Vision Point 2000.

5. Web-Based Accounting Software

The Internet has changed the way businesses do business. Specifically, recent advances in Internet technology have

created a new breed of accounting software called web-based accounting software which is a hosted solution. Table 6 lists some of the web-based accounting software with the web addresses and brief description for each. The basic service, in general, includes general ledgers, invoicing, accounts payable, accounts receivable, and financial reporting. Some applications also include time sheets and expense reports, as well as payroll, check writing, credit card, and inventory features. Advanced features, available for an additional cost, include tools to help you manage e-commerce, sales, as well as customer and vendor relationships.

Table 6: Web-based accounting software

<u>Product</u>	<u>Web Address</u>	<u>Description</u>
Accfinity Office	http://www.bizfinity.com/	fully secure Web-based accounting system, including Accounts Receivable, Accounts Payable, and General Ledger, invoice printing and check printing.
Baport Technologies	http://www.baport.com/	Hosted accounting solutions for small businesses.
eLedger.com	http://www.eLedger.com/	web-based accounting for small businesses.
Flagship ASP	http://www.flagshipasp.com/	offers enterprise-class hosted accounting and management systems.
Intacct	http://www.intacct.com/	Web-based, hosted accounting services.
Necho Systems Corp	http://www.necho.com/	Web-based T&E services.
Netledger	http://www.netledger.com/	Netledger hosted accounting software
Peachtree	http://www.peachtree.com/	Peachtree is a leading provider of accounting solutions to small businesses.
TheAccountsOffice	http://www.TheAccountsOffice.co.uk	provides online, outsourced accountancy and back office solutions for media, marketing and internet firms looking to develop in the UK and Europe
Virtual Growth	http://www.virtualgrowth.com/	Outsourced bookkeeping and accounting services.

Source : http://b2business.net/Business_Resources/Accounting

5.1. Pros and Cons of Web-based Accounting Software

Web-based accounting software systems are subscription-based accounting systems that reside on a web server. Any individual or company that subscribes to the service can have access to the systems from anywhere in the world through a regular web browser. There is no up front investment for additional hardware or software to set up and run company accounting system on web-based service. Therefore it is an especially appealing alternative for small businesses. Web-based accounting software is still a relatively new concept and there are pros and cons associated with the adoption of such a system

5.1.1. Benefits for Using Web-based Accounting Software

1. No up front investment in additional hardware and software to run the system.
2. Relatively low monthly subscription fee. For example, QuickBooks for the Web, \$15 per month, unlimited users.

3. State-of-the-art software – Application code is always up-to-date and there is no need to upgrade the software. The service also comes with high-end database software that is usually expensive to acquire and maintain.
4. Lower administration and maintenance costs – including database backup and recovery.
5. No need to install the software, hence, shorter implementation time required.
6. Convenience – work from home or away from the office.

5.1.2. Potential Problems for Using Web-based Accounting Software

1. Security and reliability issues.
2. Prevalence of viruses on the Web.
3. Less control of the system.
4. Need of high speed Internet access
5. Loss of independence – Once subscribed, it will be difficult to unsubscribe in the future due to possible loss of past data.

Comparing traditional accounting software with web-based accounting is a difficult task. Low-end web-based accounting systems cost around \$15 dollars or less per month as shown in table 7 although high-end systems such as ACCPAC Online will cost you much more [1]. Monthly fee typically includes software upgrades, hardware, remote access, database server,

backup, security protection, etc. Small businesses do not have the technical know-how to implement an accounting system and have to rely on an accountant or consultant to install the software and implement the system. All things considered, the cost of owning your own accounting software is most likely to be higher than using web-based accounting software.

Table 7: Comparison of Leading Web-based Accounting Software Packages

Feature	ePeachtree 3.0	NetLedger 5.0	QuickBooks for the Web
Cost	\$9.99 per mo.single user \$4.99 each add'l user	\$9.99 per user per month	\$14.95 per month unlimited users
Set Up	Good	Good	Good
Inventory	Fair, Avg. cost only	Good	Poor
General Ledger	Very Good	Very Good	Fair
Acct. Payable	Good	Very Good	Fair
Acct. Rec	Good	Very Good	Fair
Payroll	Good	Very Good	Poor
E-commerce tools	NA	Very Good	NA
Reporting	Good	Very Good	Fair
OVERALL	Good	Very Good	Fair

Source: <http://sbdcnets.utsa.edu/E-Newsletters/news6.htm>

6. Concluding Comments

Using the DEA model, we connect the services (outputs) provided by entry-level accounting software packages to the costs (inputs) required to provide these services to evaluate the performance of an accounting software package relative to its peer group. DEA does not require a set of pre-assigned weights for inputs and outputs and, thus, overcomes the deficiency introduced by using arbitrary weights. With the proliferation of e-business systems, web-base accounting system has become a viable alternative to the traditional accounting system for small business. For our future research, we would like to apply DEA to the rankings of web-based accounting software when more data is available.

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