Accounting Software Selection
And Satisfaction:
A Comparative Analysis Of Vendor
And User Perceptions

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ABSTRACT

We comparatively analyze the accounting software selection, retention, and satisfaction perceptions of 43 accounting software vendors as compared to 57 accounting software users. We identify key areas of agreement and disagreement between the groups. With respect to major factor categories, vendors rate vendor support significantly higher than users, while users rate functionality and compatibility significantly higher than vendors. Key differences also exist with respect to vendor and user perceptions of the most important features present within the major categories. For instance, vendors and users rate ten of the fourteen components of functionality/capability significantly different. Similar differences are found with respect to features in vendor stability and vendor support. Vendors and users also differ in their perceptions as to why companies change software. By highlighting some of the key areas where vendors and users differ in their perceptions of important items, we hope to help bridge the gap between vendor efforts and user desires. By knowing their customers better and focusing increased attention on areas that users value, we believe that vendors will be able to develop software that better fits user objectives and, in turn, improves user satisfaction.

INTRODUCTION

The purpose of this paper is to comparatively analyze the perceptions of vendors and users with respect to accounting software selection and satisfaction. Elikai et al. (2007) identify key factors that users find important in accounting software selection, retention, and change decisions. Elikai et al. (2007) also identifies key areas of user satisfaction and dissatisfaction. The purpose of the present study is to compare vendors' perceptions of key factors of importance to those of users to determine if there is congruence or incongruence between which factors each party values. This study should be relevant to users and vendors of accounting software. Accounting software is a complex product with many features, and it is hard for vendors to know what users want. Bringing user and vendor perceptions into closer alignment could help to increase software quality and user satisfaction.

PRIOR RESEARCH

A review of the literature revealed that most journal articles related to software selection represent opinion articles on factors companies should consider when selecting software or are modeling papers related to the decision process rather than empirical papers investigating which factors are important in making such decisions. Opinion papers related to factors important to software choice are discussed first.

Factors To Consider

Delf (1989) asserted that users should ask vendors a variety of questions regarding software features prior to deciding which software to purchase. Specifically, Delf suggested that software users ask questions relating to guarantees, risk, references, updates, regulatory, customer service, documentation, training, software manufacturing procedures, price, and legal considerations prior to purchasing new software. While no data were collected in this study, the paper does provide some useful insights into which factors may influence software selection from a vendor viewpoint.

Wasti (1996) describes questions that should be asked in selecting the best accounting system. Specifically, he indicates that companies (users) should ask questions about ease of use, processing power, flexibility, and ability to integrate with other systems before selecting an accounting system.

Gamblin and Siegel (1997) offer advice on which factors should be considered in accounting software decisions. These include: features and capabilities, compatibility and integration, ease of customization, ease of use, and price. The authors assert that the fundamental task (i.e. purpose) of accounting software is to automate the recording and posting of journal entries.

Collins (1999) also offers suggestions on selecting the right accounting software. Collins argues that the most important factor in selecting accounting software is whether the software can be customized to meet the needs of the organization. He argues that vendor reliability is critically important in the decision and that good users should be sure to consider the software that can produce the ratios and financial reports needed by the business.

Frey (2001) offers advice on factors to consider in making accounting software decisions for nonprofit organizations.   A list of questions is provided to help organizations select the best fund accounting system to meet their needs.

Mattingly (2001) offers further advice on selecting the best accounting software. He advocates understanding organizational needs on the front end and then selecting the product that best fits those needs, while considering cost, features, and other factors along the way.

Berlin (2002) suggests that features and functionality are most important in selecting a new software system. Specifically, the ability to customize the software is a very important in the software selection decision, as is compatibility with other software. He indicates that many companies are reluctant to switch software due to the cost of switching, including the costs of re-training employees, converting data, and the cost of disruption to the business.

Carey (2002) and Day (2003) also offer advice on the software selection process and factors that should be considered in making software choices.   Day (2003) suggests that the most important question is how well the software fits your organization.

Little (2006) highlights several questions that are important to consider when evaluating, selecting, and implementing accounting software. Specifically, he indicates that companies should consider what software their competitors are using and whether they have customized their software to maximize the benefits. Little indicates that companies should examine the software product itself (in terms of how easily it can accommodate growth in the business and how easy it is to upgrade), as well as consider their relationship with the vendor (e.g., what training and /or custom documentation will be provided with the software).

Elikai et. al. (2007) study user perceptions on factors and software features most important to users related to software selection, satisfaction, retention and change. The authors find that the functionality (capabilities) of the software is most important to users, and within this category, flexibility (customization) stands out as the feature of primary importance. Surprisingly, users rate vendor support quite low in importance. Elikai et. al. also identify key areas important in software selection, satisfaction, dissatisfaction and change. Elikai et. al. focus on user perceptions

only, so the current research study adds to the literature by incorporating vendor perceptions and comparing them to those of users.

Process Modeling

Kee and Samson (1991) advocate using a weighted criterion technique to make software selection decisions followed by an analysis of pair-wise differences. While the model developed can be a useful tool in making software selection decisions, it does not provide data on factors users actually consider useful in such decisions.

Schwab and Kallman (1991) performed a case study investigation of the software selection decision of the Information Services Department of Bentley College. In their selection process, they mandated that functionality would dominate as the most important criterion in making a software selection choice. This article focused on the process (more than 30 months) of selecting software at one institution.

West and Shields (1998) also discuss the process of selecting software. Specifically, they suggest that a strategic approach should be used in business application software selection and that the focus should be based more on "selecting a strategic business partner" than on "finding the best package." They also discuss the importance of tone at the top in the selection, implementation, and successful use of new software. Johnston (2003) discusses some of the software functions important in choosing accounting software and also offers advice on key steps that should be taken in making selection decisions regarding accounting software.

Anderson and Chen (1997) present a methodology for empirically evaluating software packages. In their study, they evaluate decisions related to five software types (word processing, spreadsheet, database management systems, communications, and graphics). The methodology developed involves identifying performance attributes that should be used in software selection decisions as well as estimated weights of relative importance for each attribute. The attributes studied included basic functions, documentation, advanced functions, vendor support, ease of use, and training time. Ease of use, documentation and functionality were generally rated as important in user satisfaction, while training time and vendor support were not significant.

Sahay and Gupta (2003) model selection of supply chain management software. The authors build a flexible model of software selection by weighting primary drivers (technology, cost and pricing, features, customization, support and services) and secondary drivers (vendor vision, industry covered, vendor strength, others). While they do include factors to consider in their model, the study focuses on supply chain management software and not accounting software.

THE STUDY

Survey instruments were sent to 126 vendors of accounting software. Forty-three usable responses were received, representing 82 different software packages, indicating a 34% response rate. Demographic data for the vendor respondents are shown in Table 1.

As shown in Panel A of Table 1, the highest number of responses (16) came from managers, followed by company presidents (12), and company vice presidents (8). The remaining respondents were employed as Chief Executive, Operating, or Financial Officers of their companies (7). As shown in Panel B of Table 1, respondents had an average of over 9 years of work experience in their present position and an average of 22 years total work experience. Hence, the sophistication of the respondents was quite high. The vast majority of respondents were male.

Company demographics are shown in Panel C of Table 1. The companies were fairly evenly split between companies with only U.S. domestic operations and those with both U.S. domestic and international operations. Only five of the companies operated on a purely international basis. In terms of total sales, just over half of the companies were willing to disclose annual sales (n=22). Of those who provided this information, most (19) were relatively small, with annual sales less of than $5 million. On average, the companies employed 25 accounting/finance employees.

Panel D of Table 1 details the types of software and required operating systems related to the survey respondents. As shown in the table, most software packages offered general ledger, basic accounting, and/or financial statement capabilities. The most commonly required operating platform was Windows.

Table 1
Demographic Information – Vendors

Panel A: Job Title

Position	Frequency
President	12
Chief Executive Officer	4
Chief Operating Officer	2
Chief Financial Officer	1
Vice President	8
Manager	16
Total	43

Panel B: Personal Information

Work Experience in Current Job	9.4
Work Experience in Total	22.1
Gender:	
Male	35
Female	8

Panel C: Company Information

Geographic Location:	
US Domestic	18
Some US Domestic; Some International	20
All International	5
Total Sales	
< $1 million	8
$1-$4.99 million	11
$ 5 - 9.9 million	1
$≥ $10 million	2
Average Number of Accounting/Finance Employees	25

Panel D – Software and Operating System

Software Type	
General ledger/accounting/financial statement	45
Job Costing/Inventory	6
Governmental Not-for-Profit	5
Order Entry	5
Enterprise Resource Planning/ Entity-wide	3
Payroll	3
Tax	3
Fixed Asset	2
Billing	2
Other	8
Operating System	
Windows	68
Dos	5
Other	9

RESULTS

We surveyed accounting software vendors to ascertain their perceptions on the major factors and software features they believed to be most important in developing their software packages. We then compared these results to the user software data ratings of factors and features most important in software selection decisions presented in Elikai et al. (2007).[1]

Our first area of study was to identify the major factor categories deemed most important to vendors and compare vendor responses to those of users. The results of this inquiry are presented in Table 2. As shown in Table 2, both vendors and users rated Functionality/Capability as the most important overall factor category in software selection decisions. Interestingly, while the numerical ranking was the same, the mean for users was significantly lower than the mean for vendors for Functionality/Capability, indicating that this category was significantly more important to users than to vendors. The next most important factor for both groups was the cost of the software. The rankings then diverge with users rating compatibility with other software and/or systems significantly higher than vendors and vendors rating vendor support significantly higher than users. Not surprisingly, vendors rate their support as the third most important factor category, as they are sure to have many resources invested in providing good vendor support. Alternatively, users are much more concerned with compatibility issues and rate vendor support as the least important category. These differences are important since vendors are creating a product to serve customer needs and they may very well be investing resources in areas that are not as highly valued by users. Three vendors chose to write in "other" items and rate them highly in importance. These other comments related to ease of support and other technical support, both of which we would have considered as part of the vendor support category.

Table 2
Most Important Features

Categories	To Users in Selecting Software Packages[#]		To Vendor In Developing this Software Package		Mean Comparison
Ranking Scale: 1 = Most important; 6 = least important	Mean (n=57)	Ranking	Mean (n = 82)	Ranking	T-Statistic *** p<.001 ** p< .01 * p< .05
Functionality/Capability of software	1.298	1	1.687	1	2.676**
Cost of software	3.070	2	2.976	2	-0.438
Compatibility with other software and/or systems	3.386	3	4.313	5	3.957***
Vendor stability/viability	3.561	4	3.711	4	0.734
Vendor support	3.772	5	3.157	3	-3.074**
Other	5.912	6	5.398	6	-3.009**
[#] Source: Elikai, F., D.M. Ivancevich, and S.H. Ivancevich (2007)					

After we evaluated the major factor categories as they relate to software development and selection, we analyzed the features (or components) within each category. Once again this comparison can provide meaningful incongruencies between where vendors invest their resources and what users value in making software selection decisions. Results for individual comparisons of category features are presented in Table 3.

Table 3
Factors Most Important Within Each Feature Category

Panel A: Functionality/Capability

Ranking Scale: 1 = Most important; 14 = Least important	To Users in Selecting Software Packages[#]		To Vendor In Developing this Software Package		Mean Comparison
	Mean (n=57)	Ranking	Mean (n = 82)	Ranking	T statistic *** p<.001 ** p< .01 * p< .05
Flexibility (customization)	3.857	1	5.000	3	2.085*
Real-time processing	5.211	2	7.072	8	3.121**
User friendliness	5.564	3	2.277	1	-7.353***
Security	5.667	4	6.904	7	2.513**
Ability to upgrade	5.737	5	4.590	2	-2.340*
Transaction complexity	6.426	6	5.446	4	-2.132*
Multi-business unit	6.526	7	8.651	10	3.573***
Transaction volume	6.825	8	6.747	6	-0.153
Report writing functions	6.912	9	5.759	5	-2.286*
Multi-company	7.298	10	8.120	9	1.274
Web access	9.632	11	10.169	12	0.953
International	10.368	12	11.566	13	2.288*
Graphics	11.105	13	9.398	11	-3.857***
Other	13.842	14	13.181	14	-2.032*
[#] Source: Elikai, F., D.M. Ivancevich, and S.H. Ivancevich (2007)					

Panel B: Cost

Ranking Scale: 1 = Most important; 4 = Least important	To Users in Selecting Software Packages[#]		To Vendor In Developing this Software Package		Mean Comparison
	Mean (n=57)	Ranking	Mean (n = 82)	Ranking	T statistic *** p<.001 ** p< .01 * p< .05
Purchase price	1.754	1	1.711	1	-0.255
Annual operating cost	2.193	2	2.627	2	2.332*
Installation/set-up cost	2.702	3	2.759	3	0.325
Training cost	3.368	4	2.916	4	-3.326***
[#] Source: Elikai, F., D.M. Ivancevich, and S.H. Ivancevich (2007)					

Panel C: Compatibility

Ranking Scale: 1 = Most important; 3 = Least important	To Users in Selecting Software Packages[#]		To Vendor In Developing this Software Package		Mean Comparison
	Mean (n=57)	Ranking	Mean (n = 82)	Ranking	T statistic *** p<.001 ** p< .01 * p< .05
With operating system	1.579	1	1.482	1	-0.907
With hardware	2.141	2	2.024	2	-0.900
Other	2.281	3	2.494	3	1.479
[#] Source: Elikai, F., D.M. Ivancevich, and S.H. Ivancevich (2007)					

Panel D: Vendor Stability/Viability

Ranking Scale: 1 = Most important; 3 = Least important	To Users in Selecting Software Packages[#]		To Vendor In Developing this Software Package		Mean Comparison
	Mean (n=57)	Ranking	Mean (n = 82)	Ranking	T statistic *** p<.001 ** p< .01 * p< .05
Reputation	1.298	1	1.193	1	-1.278
Company's financial health	1.702	2	2.169	2	5.869***
Other	3.000	3	2.64	3	-4.892***
[#] Source: Elikai, F., D.M. Ivancevich, and S.H. Ivancevich (2007)					

Panel E: Vendor Support

Ranking Scale: 1 = Most important; 7 = Least important	To Users in Selecting Software Packages[#]		To Vendor In Developing this Software Package		Mean Comparison
	Mean (n=57)	Ranking	Mean (n = 82)	Ranking	T statistic *** p<.001 ** p< .01 * p< .05
Technical vendor support	2.421	1	2.289	1	-0.495
User's manuals	3.228	2	3.663	4	1.753
Technical documentation	3.246	3	4.265	5	4.261***
Training	3.246	3	2.976	2	-1.056
On-line help	3.982	5	3.349	3	-2.225*
Warranties	5.018	6	4.747	6	-0.917
Other	6.860	7	6.735	7	0.799
[#] Source: Elikai, F., D.M. Ivancevich, and S.H. Ivancevich (2007)					

Functionality/Capability

As discussed previously, both vendors and users rated Functionality/Capability as the most important category with respect to software development and selection, respectively. Panel A of Table 3 shows mean ratings for the individual features of Functionality/Capability for both groups. Within this category, the two groups differ significantly in their perceptions. None of the numerical rankings agree between the two groups and all but three features have significantly different means. Vendors rate user friendliness, ability to upgrade, ability to handle complex transactions, report writing functions, and graphics as significantly more important than users rate them. On the other hand, users rate flexibility (customization), real-time processing, security, multi-business unit processing capabilities and international capabilities higher than vendors rate them.

These differences suggest goal incongruence between users and vendors with respect to the individual features of Functionality/Capability. Given the ratings assigned by both groups, it is likely that vendors are focusing some of their efforts in areas not highly valued by users. Vendors may find it beneficial to focus their efforts in the areas that appear to matter most to users. Lastly, two vendors wrote in "help desk support" in the other category and rated this category highly. Another vendor suggested that the ability of the new software to fix an existing problem was a very important feature in this category. These answers explain the difference between vendor and users ratings of the "other" category.

Cost

Both vendors and users ranked cost as the second most important category in software development and selection, respectively. As shown in Panel B of Table 3, the two groups agreed on the rankings of cost features but differed on the mean rating of two items. Annual operating costs were rated as more important to users than vendors, while training costs were rated as more important to vendors than users. Vendors have an inherent interest in valuing training costs high since they are often the ones providing them.

Compatibility

The major category of Compatibility features was rated as significantly more important to users than to vendors (refer to Table 2). This difference may result in more resources being expended by vendors than might be warranted based on user preferences. However, no significant differences were noted with respect to features within this category (Table 3, Panel C), so it appears that vendors and users have similar perceptions with respect to the features that make up this category.

Vendor Stability/Viability

While vendors and users rated the overall category of Vendor stability/viability as the fourth most important factor in their software decisions, they disagreed on the importance of the company's financial health. Users rated the company's financial health as significantly more important than vendors (Table 3, Panel D). In this category, two respondents note the importance of a vendor's knowledge of the business' industry in the "other" category, hence contributing a significant difference between vendors' and users' perceptions.

Vendor Support

As discussed previously, vendors rated the overall category of vender support much more highly than users. On an overall basis, this finding may correspond with vendors expending more efforts on support than needed to meet user needs. Within this category (Panel E), users rated technical documentation significantly more important than vendors and vendors rated on-line help significantly more important than users. This finding may suggest that vendors are investing their resources in on-line assistance when they would satisfy user needs more by investing these resources in strong technical documentation.

Reasons Companies Do Not Change Software

To further assess differences between vendors and users, we asked both groups their perceptions on why companies do not change software. These results are presented in Table 4. As shown in Table 4, vendors and users were in general agreement about most reasons for not changing software. However, they had significantly different views with respect to three items, integration with hardware, integration with the operating system, and the training needed to make the change. Users rated integration with hardware and the operating system as significantly more important than vendors, while vendors rated training much higher than users. Again, vendors are often invested in the training aspect of accounting software. The groups also significantly differed in their rankings of the "other" category as three vendors rated written reasons such as management trying to avoid making decisions and the lack of major problems with existing software as key reasons that companies do not change software.

Table 4
Why Companies Do Not Change Software

Reasons for Not Changing	To Users in Selecting Software Packages[#]		To Vendor In Developing this Software Package		Mean Comparison
Ranking Scale: 1 = Most important; 10 = Least important	Mean (n = 57)	Ranking	Mean (n = 82)	Ranking	T statistic *** p<.001 ** p< .01 * p< .05
Satisfaction with software package	3.342	1	3.277	3	-0.131
Cost necessary to change	3.026	2	2.735	1	-0.779
Disruption/hassle to business	3.026	3	2.759	2	-0.786
Better products not available	5.658	4	4.952	5	-1.396
Effort necessary to convert data	4.711	5	4.771	4	0.149
Integration with hardware	6.974	6	7.843	9	4.845***
Integration with other application software	5.579	7	6.277	7	1.974
Integration with operating system	6.211	8	7.313	8	3.395**
Training needed to change	6.789	9	5.759	6	-2.329*
Other	9.632	10	9.048	10	-1.452
[#] Source: Elikai, F., D.M. Ivancevich, and S.H. Ivancevich (2007)					

LIMITATIONS

This study is subject to the typical limitations inherent in survey-based research. Further, it is possible that the data are specific to the firms and software packages included in the sample and may not be generalizable to other packages. Further, we compare our vendor ratings to ratings of users from an earlier study. The software packages included in each study are not identical so it is possible the differences we identify between vendor and user ratings could be partly attributable to the differences in the software products. However, this risk is mitigated to some extent by the fact that the software packages in both studies are accounting software packages, which have fairly homogenous functions.

CONCLUSIONS

This paper identifies some key areas where perceptions of vendors and those of users differ significantly. In terms of major factor categories, vendors rate vendor support significantly higher than users, while users rate functionality and compatibility significantly higher than vendors. There are also key differences between vendor and user perceptions of importance within major categories. Vendors and users rate ten of the fourteen components of functionality/capability significantly differently, a very important finding given that both groups rated this category as the most important in software selection decisions. Significant differences also exist with respect to features in vendor stability and vendor support.

By highlighting some of the key areas where vendors and users differ in their perceptions of important items, we hope to help bridge the gap between user desires and vendor efforts. By knowing their customers better and focusing increased attention on areas that users value, we believe that vendors will be able to develop software that better fits user objectives and, in turn, leads to higher user satisfaction.

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ENDNOTE

[1] Certain companies returned surveys for more than one software package. Given the differences inherent in separate software packages, we included each software response as an observation (n = 83). However, we also ran the data by averaging the responses for each company and recording this average as an observation (n = 43). The results were essentially the same under each method. There were a few variables that shifted up or down slightly in significance level, but only one variable for which the difference between vendor and user ratings was no longer significant under the averaging technique, transaction complexity under the Functionality category.