

What's Important to Tax Software Users?

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Introduction

Tax software has become an annual part of many taxpayers' lives. While professional preparers are required to file some of their clients' tax returns electronically, the non-professional filers increasingly rely on tax software as well. The latest data from the Internal Revenue Service (IRS) states that in 2009 over 30 million individual tax returns were filed from home computers (IRS, 2009). Despite the popularity of tax programs, perceptions of the software's usefulness and reliability vary (Pegoraro, 2009). Just recently, Treasury Secretary Timothy Geithner blamed Turbo-Tax software for his failure to pay self-employment taxes for the years he worked at the International Monetary Fund (IMF) (FoxNews, 2009).

According to the Wall Street Journal (Olson, 2009), filing taxes is so overwhelming and complex that over 80% of individual taxpayers seek help. Many choose to use professional preparers; others turn to individual tax software to prepare their returns. Thus, for the average taxpayer, professional preparation or tax software serves as a means to meet tax responsibilities without having to understand the nuances of the tax law. This shift of responsibility to professional preparers or tax software would appear to provide the assurance that the tax return will be correct, that there are no potential missed deductions and that using software may provide protection from an IRS audit. Moreover, tax software is automatically updated for tax law changes— even throughout the filing season. It is therefore easy to see how for individuals unfamiliar with tax law tax software is a very convenient tool. Bolstering the perception of convenience, most tax software packages now offer “audit support” or advertise “100% accuracy guarantees” which may encourage taxpayers to believe that tax software reduces their liability in the case of an IRS audit.

Since accounting and tax professionals are trained in tax law, their reasons for using software differ from those stated above. As professionals, they understand the current tax law and keep abreast of changes. In other words, professionals understand the built-in logic and heuristics of tax software. They know that using tax software does not protect the taxpayer from IRS audits and that returns prepared using software may contain errors.

Not only do accountants use software for their engagements, but they also deal with their client's technology wishes and technology needs. Moreover, professional accountants are confronted with frequent changes in technology.

Practitioners have long been interested in studies related to professionals' tax software use as evidenced by the annual surveys published in the *Journal of Accountancy* and *The CPA Journal* (for the most recent surveys, see Zarowin, 2007; Anders and Fischer, 2008). This article describes how two distinct user groups, professional preparers versus novices, differ in their understanding of the purpose and use of tax software and how these differences affect their choice to use software. For professionals, learning about different perceptions of what tax software does and how it should be used, will help them better understand their clients' perspective and provide a better product. Software producers and the IRS with its mandate to increase e-filing numbers should also be interested in these findings because – as past research has shown – technology acceptance depends significantly on the users' perceptions of such technology.

Measuring Tax Software Acceptance

Individual acceptance of technology is widely studied in many disciplines. Yet, investigations related to the diffusion of computing technology and the use of tax software are relatively recent. We base our study on the models and findings of prior research indicating that people use technology for a variety of reasons and purposes. Users' perceptions about software performance, their anticipated learning curve, influences of their superiors, family and friends, and other conditions traditionally determine their use of technology (Davis, 1989; Venkatesh, Morris et al., 2003).

All these factors matter; yet, the importance of one aspect over another may vary between different technology user groups (Devolder, Pynoo et al., 2008). We were interested in how professional tax preparers might be different from the general public (“novices”) using tax software; thus, we examined the following questions:

1. How do novice and professional groups differ in their perceptions of software effectiveness and efficiency?
2. Do family and friends influence whether we use tax software?
3. Which user group is more likely to use tax software in the future?
4. When using tax software, are people concerned about the privacy of their information?
5. Do people worry about the potential risk associated with using tax software?

Tax law is a very specific and quite technical area. We believe that because one subject group is very knowledgeable in this field it may be useful to address very specific potential benefits of using software in addition to the generic questions traditionally asked in technology-acceptance surveys. We split the measurement of tax software performance into two parts, measuring “general performance” and “tax-specific performance.” That is, our survey contained generic and specific questions related to perceived performance such as “I find tax preparation useful in doing my taxes” (generic) and “by using tax preparation software, I decrease my chance of getting audited” (specific). We also included other factors traditionally found to affect technology use,

such as learning effort (a measurement of how much time and energy a tax software user thinks they will have to invest to learn the system). Another established factor considered was the impact of family and friends on a user’s choice to use tax software. We added measurements of risk and privacy concerns because we thought that in today’s world of computer identity theft, people might be worried about privacy and risk. Figure 1 details our extension of the technology acceptance model for this research.

We measured these factors surveying 78 professional accountants and 71 novices using 27-items plus demographic questions. Each factor was comprised of three to four questions and each question was measured using a typical Likert scale ranging from 1 “strongly disagree” to 7 “strongly agree.” The remainder of the survey questions related to demographic information. The professional accountants took the survey during a professional luncheon. Most of them are employed in small to mid-size accounting firms; some are also working for the IRS. For the novice group we surveyed college of business students at various stages in their education at a major western university.

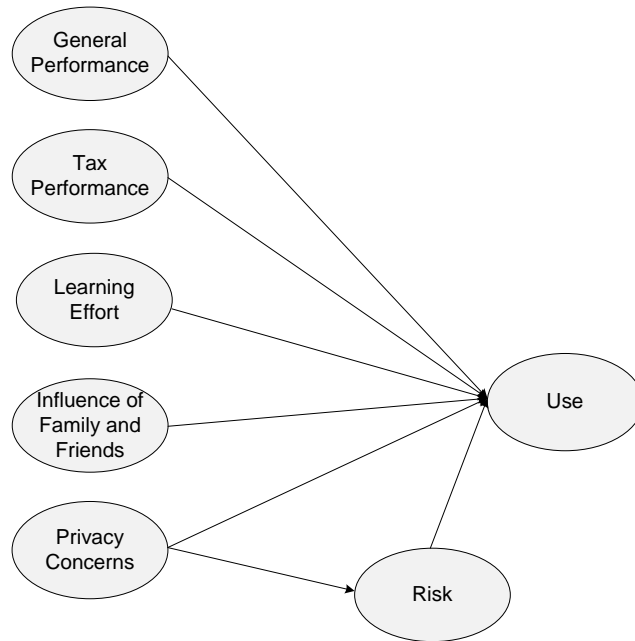


Figure 1 - Extended Technology Acceptance Model

Results

The table below summarizes gender, educational level, and experience of the survey participants. The professional group is very distinct from the novice group with regard to age, education, and experience, and – interestingly – also with regard to gender. While the novice group is relatively gender balanced with 34 males and 36 females, there are significantly more women in the professional group with 29 males and 47 females. Not surprisingly, the professional group is, on average, much older than the novice group.

Table 1. Demographic Information

	Total	Professionals	Novices
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Total Number of Subjects	149	78	71
Age ≤ 20	40	0	40
Age 21-30	33	8	25
Age 31-40	15	11	4
Age 41-50	20	18	2
Age > 50	35	35	0
Male	63	29	34
Female	83	47	36
Number with accounting degree	54	52	2
Average number of acct courses taken	4.9	9.8	2.5
Average number of tax courses taken	2.1	3.7	0.4
Number CPA licensed	41	41	0
Number of tax professionals	68	65	3
Average years of personal filing experience	13.7	24.9	3.6

The results, shown in Figure 2, represent the average response per factor. They illustrate that professionals appreciate tax preparation software more than novices. Specifically, professionals find tax software much more effective with regard to general and tax related performance, easy to learn, and less risky. Professionals also believe that their peers would encourage them to use software to file their personal tax returns. It therefore appears that the day-to-day use of tax software has a positive impact on professionals' tax software perception and use. In other words, individuals who are very familiar with tax law are more likely to appreciate the performance of tax software. This result stands in contrast to the belief that inexperienced users are overly optimistic with regard to what tax preparation software can do.

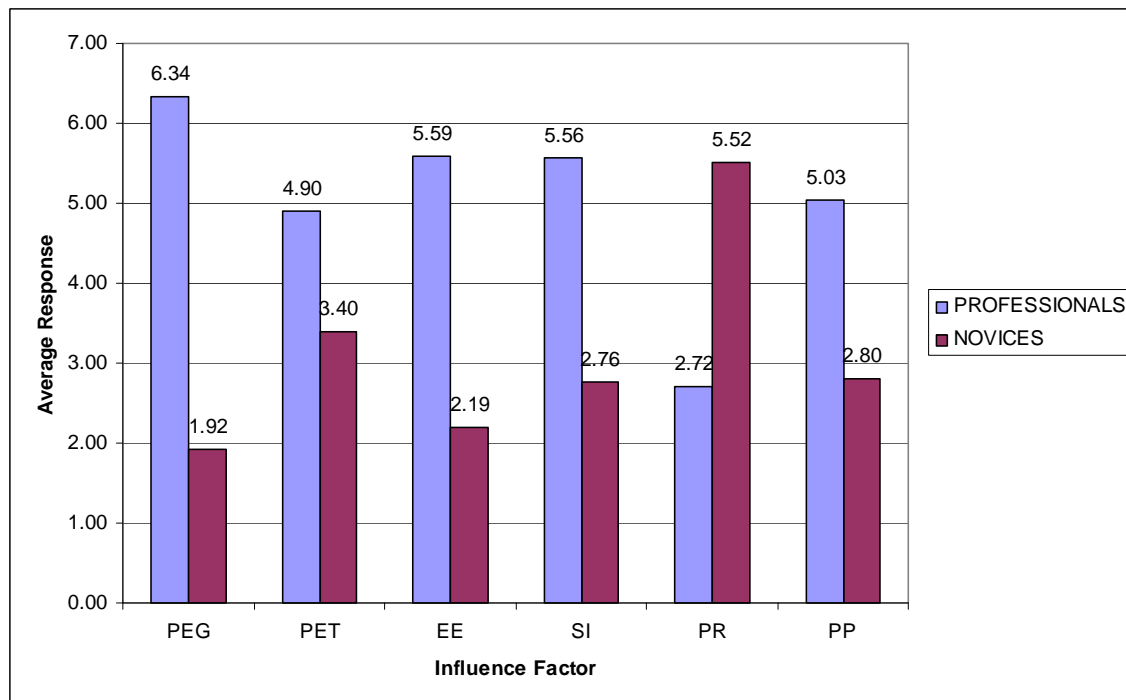


Figure 2. Cross-group factor differences

The main distinction for the two subject groups is knowledge about the tax law as well as the filing process. We therefore examined the tax-specific performance factor in more detail. We consider this important because individuals' beliefs with regard to tax performance may affect individuals' intention to use tax software. For example, if an individual believes they will get a larger refund, they may be more likely to use tax software. This notion is supported by advertising from software companies, such as the TurboTax TV commercials highlighting the amount of money refunded when using TurboTax. We asked four questions specifically related to tax software performance. Specifically, participants were to identify whether they thought that tax software lead to:

- a larger refund,
- lower probability of being audited,
- more accuracy of the return, and
- fewer errors in the return.

We anticipated that individuals who do not know much about tax law and tax filing may be more susceptible to software producers' advertising related to "audit protection" and error-free returns. Answers to these questions for the two groups are shown in Figure 3. The results confirm that novices do not have a "rosy picture" of what tax software can do. If anything, they are quite unaware of the possible benefits of tax software. Professional preparers do believe that tax software could be helpful in improving accuracy and reducing errors. We were somewhat surprised to find that many professional preparers also believe that using tax software increases the chances of getting a refund and lowers the probability of an IRS audit. This may be due to professionals' experience with the software as well with IRS audits.

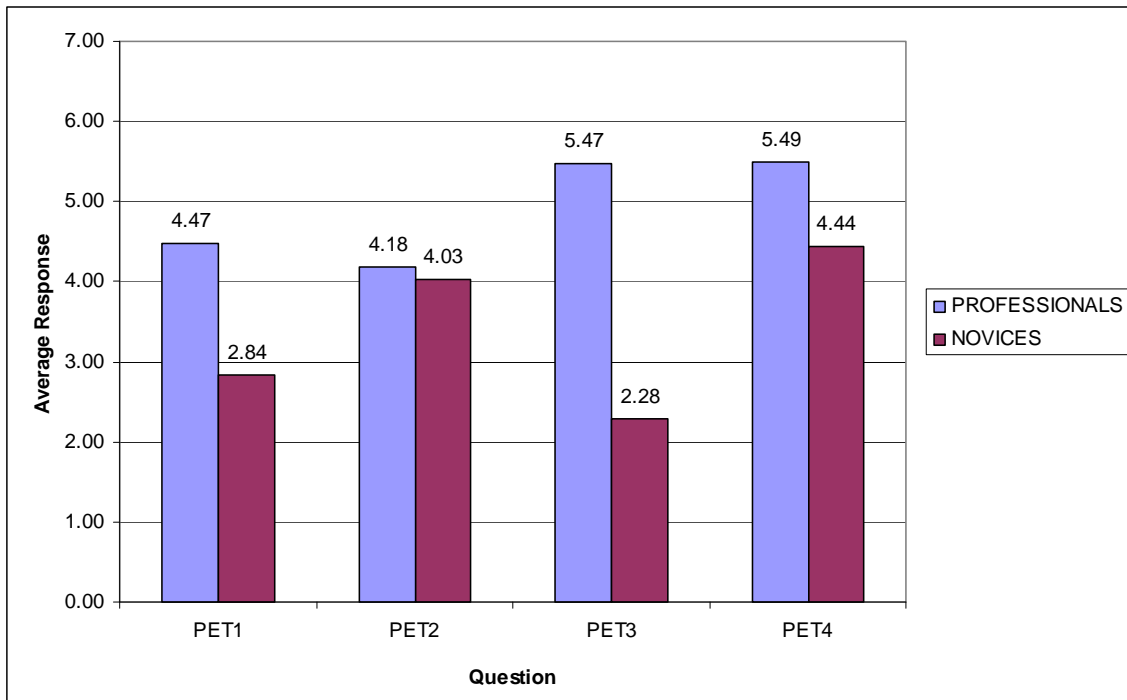


Figure 3. Cross-group perception of performance differences

Next, we compared the difference between professional and novice intentions to use tax software in the future. “Intention to use” has traditionally been measured with three questions asking the participant to list agreement or disagreement with an intention to use statement on a scale between one and seven. ~~We summarize these in Table 2, which illustrates the differences not only for the novice/professional group but also between males and females, as well as the impact of age. The between group comparison shows that within the tax professional group, gender differences are minor. However, within the novice group, females are more likely to use tax preparation software than their male counterparts. The impact of age clearly interacts with experience and education. In other words, the reason we see a significant increase in use of tax software with age, is that older participants are also more educated, more experienced with tax software and more likely to be a tax professional.~~ While other demographic characteristics such as age and gender may influence an individual’s perceptions of tax software, the most important factors appear to be experience.

Table 2. Cross-group differences of individuals' intention to use tax software

	Total	Male	Female
Total	4.63	4.27	4.89
Professional	6.31	6.31	6.34
Novice	2.75	2.47	3.05

The last aspect measured in our survey was the impact of individual perceptions on future use of tax software. We measured the following relationships for all participants and then the professional and novice subject group separately using partial least squares regression analysis:

- General performance → use
- Tax performance → use
- Learning effort → use
- Influence of family and friends → use
- Privacy concerns → risk
- Privacy concerns → use
- Risk → use

Results are illustrated in Figure 4. Note that this is an adaptation of Figure 1 with only the significant relationships shown. Once again, considerable differences between groups exist. While professionals' use of tax software is mainly influenced by the perception of general performance, novices care more about the anticipated learning curve ("how difficult they think it is to learn to use the technology – learning effort") and what others think (influence of family and friends). That is, professionals are most concerned about general functionality of the technology. Even though they also express high tax specific performance expectation, low effort expectation and believe that their peers would recommend software use, these factors appear do not affect whether they actually use the software for personal tax filing.

Differences also exist with regard to privacy and risk. For professionals the relationship between privacy concerns and use is not significant. Novices and professionals both believe that privacy concerns relate to risk; but for both groups the perception of risk does not influence their use. This distinction makes sense. Generally, preparing the return using tax software is probably not risky unless the taxpayer is sharing a computer or completing a return in a public place. The risk factor becomes relevant when the information is actually transmitted electronically. It appears that both user groups understand this. We are surprised however, to find no connection between privacy concerns and use for the professionals. This may indicate that professionals are

comfortable with tax software and its privacy safeguards or that they associate privacy with risk rather than using tax software.

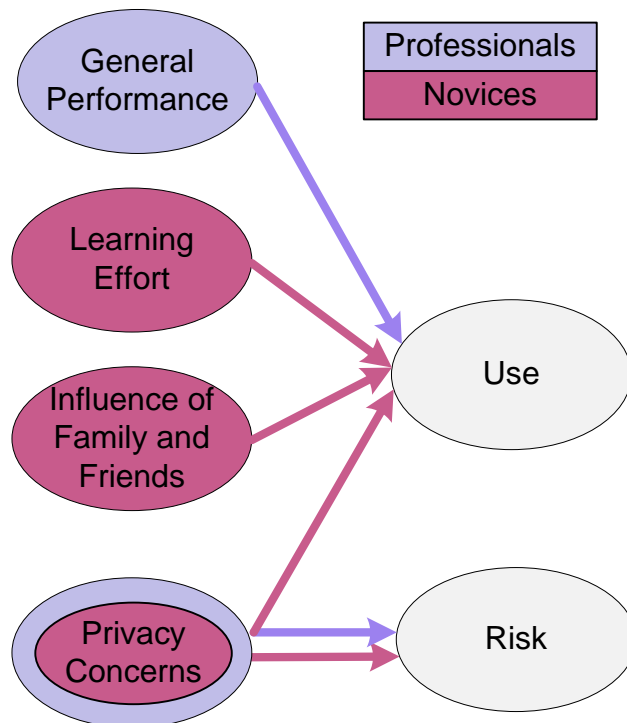


Figure 4. Factors affecting tax software use

Implications

Technology acceptance research has shown that individuals' perceptions related to an information technology product, such as tax software, influence their willingness to accept and successfully use such products. However, an area not yet researched extensively is how the relationships between various factors and software use may differ across disparate user groups. This work shows that the differences exist between professional tax preparers and novices. Specifically:

1. Compared to novice users, professional preparers have a more positive view of tax preparation software in every dimension measured in this survey;
2. compared to novice users, professional preparers are more likely to use tax preparation software to prepare their personal tax returns;
3. for professional preparers, the choice to use software is most strongly influenced by their desire for a well-performing tool; and
4. for novices, the choice to use tax software depends on the influence of family and friends and the anticipated learning curve.

We believe that the results of this study should be of interest to all stakeholders of the tax preparation and filing process. For example, the use of tax software is a crucial piece in the IRS mandate to increase the percentage of electronic returns ("Internal Revenue Service Restructuring and Reform Act of 1998" (P.L. 105-206) (§2001(a)(2)). This is

because only computer prepared returns can be filed electronically. Understanding that the motivation to use software is very different for different user groups will help the IRS's effort. Similarly, for software developers it is important to be familiar with the different perceptions of the product in order to tailor their marketing and sales efforts. Professional preparers who are very experienced with tax preparation software should recognize that their clients may not understand the benefits of software and may have a very different perception of its usefulness and that some client education may be necessary. Finally, the general public may be interested in knowing that despite anecdotal evidence to the contrary and despite some heavy advertising by the software producers, novice users do not believe that tax preparation software impacts the size of their refund or the probability of an IRS audit.

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Appendix A - Survey

1. Tax preparation software lets me prepare my taxes more quickly. (PEG1)
2. My tax return will have less errors if use tax preparation software. (PEG2)
3. I find tax preparation software useful for doing my taxes. (PEG3)
4. Tax preparation software is helpful in completing my taxes. (PEG4)
5. If I use tax preparation software, I increase my chances of getting a larger refund. (PET1)
6. By using tax preparation software, I decrease my chances of being audited. (PET2)
7. Tax preparation software will make my tax return more accurate. (PET3)
8. If I use tax preparation software, my tax return is less likely to contain errors. (PET4)
9. It would be easy for me to become skillful at using tax preparation software. (EE1)
10. I would find tax preparation software easy to use. (EE2)
11. Learning to operate tax preparation software is easy for me. (EE3)
12. It would require little effort for me to use tax preparation software. (EE4)
13. People who are important to me think that I should use tax preparation software. (SI1)
14. People who influence my behavior believe I should use tax preparation software. (SI2)
15. In general, people around me have supported me using tax preparation software. (SI3)
16. Most of the people I know think I should use tax preparation software. (SI4)
17. The use of tax preparation software can be dangerous. (PR1)
18. It would be risky to use tax preparation software. (PR2)
19. I think it is unsafe to use tax preparation software. (PR3)
20. By using tax preparation software I am taking a chance. (PR4)
21. Tax preparation software will not divulge my personal information to unauthorized persons. (PP1)
22. I believe that when using tax preparation software my personal information will be held private. (PP2)
23. I do not worry about my personal information when using tax preparation software. (PP3)
24. I can rely on tax preparation software to keep my personal information private. (PP4)
25. I intend to use tax preparation software for my income tax return next year. (ITU1)
26. In choosing preparation methods for my income tax return, my first choice would be to use tax preparation software. (ITU2)
27. I would recommend tax preparation software to my relatives and friends. (ITU3)

Age _____

Gender [F/M]

Education

- Degree [some college/bachelors/graduate/other]
- Education in Acc:
 - Do you have a degree in accounting? [YES/NO]
 - How many college accounting courses have you taken?
 - How many college tax courses have you taken?
- Education in IS:
 - Do you have a degree in information systems? [YES/NO]

- How many college information systems courses have you taken?

Experience

- Personal filing
 - Years of personally filing
 - Years of using tax preparation software
- Are you a professional tax return preparer [YES/NO]
- Are you a CPA [YES/NO]
- Computing/software use experience
 - Years of using computers
 - List the computer software programs you use regularly:
- Do you have any special recognition such as professional certifications in your field of study/work? [YES/NO/N/A]
 - If so, please list them:
- Are you currently full-time employed in the IS field: [YES/NO]
- Are you currently full-time employed in the accounting field: [YES/NO]