RESEARCHING TAX USING TECHNOLOGY: A SURVEY OF STUDENT ATTITUDES

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Technology and the Internet play an ever-increasing role in tax research and the current practice of tax. Hard-copy resources are becoming less common and increasingly information is being provided in electronic form or available on the Internet. This change has important ramifications for the way tax research is conducted. A primary source of information in the tax arena is the Australian Taxation Office website. This site contains a vast amount of information, which by necessity makes navigation of the site complex. However, this is an important resource which is freely available to the public so the importance of learning to navigate this resource so as to fully utilise the information available cannot be understated. This paper explores the attitudes of tax students towards the Internet generally, and the Australian Taxation Office website specifically, to determine whether students need further assistance in accepting the use of technology as the medium for tax research.

I Introduction

The study of tax has rapidly progressed from being based in textbooks and hard-copy loose leaf services to an activity that is more usually conducted in front of a computer. We are moving away from the ‘olden days’ where research was conducted cross-legged in the aisles of the library, flipping through a loose-leaf service prior to hours at a photocopier copying the material that was considered important. Today, a student is more likely to be slouched at a computer for hours in pursuit of the information required to conduct research, particularly of the doctrinal kind. Information that was once found in massive leather-bound volumes is now contained, in large part, in massive computer databases. This change in technology and information sourcing is of no less importance to practitioners than accounting students. Students studying taxation law have an inordinate amount of information and technology at their disposal. However, this volume of information does not necessarily make the study of taxation law a simple task.

In an effort to make taxation laws more accessible, the Australian Taxation Office (‘ATO’) has put all legislation and a raft of additional interpretative material on their website, free of charge. While this makes the material readily available for public use, the site is necessarily complex and can be difficult to use. Students therefore need to be able to readily access the site to enhance their research capabilities. To assist students in gaining these skills, a CD-ROM has been developed entitled ‘Navigating the ATO’. In an effort to determine how the users of this technology accept and use this technology a study was conducted of third year accounting students studying taxation law. The study finds that while students accept the use of the Internet there is still some work to be done to make the ATO websites more user-friendly.

II Background to the Project

This project involves students studying taxation law at Central Queensland University (‘CQU’). The majority of these students (95 per cent) are completing a degree in accounting and are generally in the final stages of their degree. Anecdotally, a large proportion of these students

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will go on to become accountants and tax agents while others will work in areas of accounting where tax is more of a peripheral issue. Many of these students are already working in accounting firms while completing their degrees. The students came from a variety of different backgrounds and also differed in terms of existing proficiency levels both in the area of tax and in the area of computer literacy.

Upon entering the workforce it is expected that these students will be able to make an immediate contribution in the area in which they work. The intention of the project is to enhance the students’ generic abilities in information literacy and also to develop specific tax research skills. Both of these skills are becoming increasingly important considering the increasing reliance on technology. Technology-literate students have an advantage in that they are better equipped to deal with the demands of researching tax in an environment that is almost completely electronic. Admittedly, information literacy also entails another component which relates to what a person does with the information once they have obtained it. This project does not deal with that component of information literacy.

One might wonder why specific skills in tax research are required when information literacy is a widely taught generic skill and one that is generally covered in some depth in a business/accounting course. Are these skills not transferable so to allow students to engage in computer-based tax research? Are legal research skills also insufficient to allow a student studying tax to engage in tax research without requiring additional skills? While one might argue that the skills taught in other areas are indeed sufficient to allow for successful tax research, it might also be recognised that subject-specific tax resources are different to resources available in other accounting areas and even other areas of law.

Taxation law is contained in legislation and interpreted in cases, as is other law, but there are a whole range of additional extrinsic materials that may affect interpretation of this law. These materials include Public and Private Rulings, Practice Statements, Taxpayer Alerts, Interpretative Decisions and other publications produced by the ATO to disseminate information. Rulings, in particular, have acquired something akin to legal status in that they are binding on the Commissioner where the outcome is favourable to the taxpayer, although it is arguable whether or not this should be the case. It is therefore vital that those engaging in the practice of tax, and those intending to do so, are able to access these materials if they are to utilise them effectively in their research. It is also vital that we gain some understanding into the factors that affect the use of technology by those engaging in tax research.

Commercially, these materials are contained in databases available from publishing companies such as CCH. There are also other databases that are available without cost which contain some or all of these sources of taxation law. Legislation is available from the Australian Government Attorney-General’s Department COMLAW site. The Australasian Legal Information Institute (‘AustLII’) site contains case law from most jurisdictions in Australia and New Zealand in addition to legislation. However, a major source of information in taxation law, and the one which is utilised in this project, is the ATO website. The ATO have their information divided into two sites. One of these is a legal database which contains legislation, cases, rulings and a

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1 Income Tax Assessment Act 1936 (Cth) s 170BA(3).
2 See Bellinz Pty Ltd v FCT (1998) 98 ATC 4399, 4417.
range of other extrinsic materials that guide interpretation of the tax law. The other site contains media releases, fact sheets and numerous other sources of information which disseminates tax information to the public to encourage increased compliance, rather than disseminating the laws themselves.

While the author was teaching third year taxation law students, it became apparent that the students lacked knowledge about the specialist tax resources available to them. It also seemed that the students lacked the necessary knowledge and skills to enable them to access and use this information. Observation of their work indicated that they were not using the resources available despite the fact that there were references to these resources in course materials. Special classes were started dealing with information literacy and tax-specific materials but the use of these materials in assessment items still did not reach a noticeable level. Even when ATO sites were discussed in class and information was given as to the location of the sites, it was rare to see information from the sites used in answers to assessment. It is difficult to measure uptake of such resources; the only real measure available was to look for changes in references to such materials in assessment items and this was not occurring.

In an attempt to fill the gaps that seemed to exist in the knowledge that students had about available resources, a CD-ROM was developed in collaboration with CQU’s Multimedia Design Centre. The CD-ROM is entitled ‘Navigating the ATO’ and contains a tutorial that guides students around the ATO websites. The tutorial also allows students to work on the Internet while the tutorial is running to conduct the searches concurrently. This allows students to learn by doing, which in most cases will allow students to learn the skills taught in the tutorial in the shortest amount of time. The design of the CD-ROM is meant to give students an idea of the variety of materials that they can find on the ATO sites. This is done by looking at some different examples of material to illustrate to students that there are a number of types of information available. The types of materials to which the tutorial guides students are general information pages, publications, forms and areas within the general ATO website. The areas within the ATO Legal Database to which the students are introduced are legislation, rulings, updates, and case judgements. The intention is that students will then be aware of the range of different materials available on the sites.

To make the information in the CD-ROM relevant to the students, the examples are carefully chosen to relate to topics the students are studying. This is to ensure that the information used in the examples covers areas that students are often personally interested in at the time that they complete the tutorial. For example, the topic ‘working while studying’ is used to illustrate the general principles of searching via the left-hand frame on the home page of the ATO site. Another example of this is the use of Taxation Ruling TR 98/17, which looks at residency for tax purposes in Australia, as the ruling illustrating how to find a taxation ruling. This topic is of interest to students in the early stages of a taxation law course as it is one of the first topics covered in the course. The use of topics that are either personally relevant or directly relevant to the material in the course serves to spark student interest in the material being covered, as they can immediately see how this information can be useful to them. This should then have the effect of encouraging use of the site both in their studies and in the workforce as it reinforces the value of being able to find such information.

In a further effort to give information literacy in this context some immediate value, a short online quiz has been designed. The quiz is worth 10 per cent of the total marks for the course. This quiz requires students to navigate to various areas of the ATO sites to find the answers to

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the questions posed. The questions relate to documents contained on the ATO sites. Prior to the introduction of the quiz, the CD-ROM was available without a summative (or additive) assessment component attached. Anecdotal evidence showed a minor increase in references to the ATO sites in assessment items during this time. However, it was thought that students were more likely to attach greater value to the skills being taught if some form of summative assessment was required.

The strong push towards technology in tax research and the consequent encouragement of students to take up this technology assumes that these students have the skills and ability to use the technology. This may not always be true. While it may be a fair assumption for those who have come straight from school and have attained high levels of computer literacy through learning in school, it may not be a fair assumption for other students in the course. There are a large per centage of university students who did not commence tertiary study until some years after completing school. For these students, computer literacy is likely to be lower. There are also many students who come into university with an overseas educational background. The computer skills of those students may depend on the courses previously studied and the country in which they studied. It is important to determine whether the students utilising technology to obtain tax information have the skills and abilities to do so. If not, it may turn out that we are setting these students an impossible task.

While we are giving the students in this course an opportunity to become familiar with the premier source of tax information, it may be that there are other factors which affect whether or not these students choose to use this information. Even when given the opportunity to use the ATO sites, students may still choose not to do so. Some of the factors that may affect whether students use the ATO sites could be the perceived usefulness of the sites, perceived ease of use of the sites, availability of support, social pressure, through to personal traits such as innovativeness, gender, prior experience or educational level.

This study considers the factors that may affect the use of the ATO sites on two levels. First, it looks at perceived usefulness and perceived ease of use of the Internet. Consideration is also given to whether innovativeness impacts on these factors. Second, the study goes on to consider whether perceived usefulness and perceived ease of use of the Internet are related to perceived usefulness and perceived ease of use of the ATO websites. It is important that these factors are considered in light of the special requirements that tax students have for information and the fact that this information is largely available via technology.

III Factors Affecting The Adoption And Usage Of New Technology

The variables that were tested are based on the Technology Acceptance Model (‘TAM’)7 as developed by Fred Davis, and the concept of innate innovativeness. Since its development, there has been much written that helps to explain why individuals will more readily accept some technological applications over others.8 The TAM is used to predict and explain the acceptance

of information technology using perceived usefulness and perceived ease of use as determinants of behaviour. Similar variables were used in Davis’ original study.9

Perceived usefulness is defined as ‘the degree to which a person believes that using a particular system would enhance his or her job performance’.10 Perceived ease of use is defined as ‘the degree to which a person believes that using a particular system would be free of effort’.11 These concepts derive from work in management information systems, human-computer interaction and marketing.12 Specific theories utilised in developing the model were expectancy theory, self-efficacy theory, behavioural decision theory and diffusion of innovations theory. It is from these areas that Davis drew his assertion that perceived ease of use and perceived usefulness were salient factors in measuring the acceptance of technology.

Both the factors of ‘perceived usefulness’ and ‘perceived ease of use’ have been found to be significantly correlated with self-reported indicators of system usage.13 However, perceived usefulness shows the strongest correlation with usage.14 This makes sense in that while ‘difficulty of use can discourage early adoption of an otherwise useful system, no amount of ease of use can compensate for a system that does not perform a useful function’.15 The accuracy of these variables as determinants of system usage has been described in numerous further studies that have specifically targeted technology use in management education,16 in universities,17 in a gender studies context18 and in numerous other applications.19

Further, ease of learning has been found to be related to ease of use20 to the extent that the two factors can be considered congruent.21 Consequently, in the TAM, ease of learning is not treated as a separate factor, but is treated as part of the determinant of ease of use.22 This study follows the TAM on this point.

Perceived usefulness is described as an extrinsic motivator while perceived ease of use is described as an intrinsic motivator. These motivators are also affected by a number of external factors which are not considered in the TAM although it is suggested that they would be of benefit.23 Their use as motivating factors has been shown in a study by Cheung and Huang where they were used to promote Internet use in university study.24

9 Davis, above n 7, 323.
10 Ibid 320.
11 Ibid.
13 Davis, above n 7, 332.
14 Ibid 333.
15 Ibid 334.
17 Cheung and Huang, above n 8.
22 Davis, above n 7, 325.
24 Cheung and Huang, above n 8.
Innovativeness is also of predictive use in studies of the uptake of technology.\(^{25}\) Innovative attitude has been shown to be related to computer use\(^{26}\) generally and to early adoption of innovations in information technology.\(^{27}\) Innovative attitude also has a positive effect on the determinant of perceived usefulness in the TAM.\(^{28}\) The concept of innovativeness refers to the willingness of an individual to try something new. It has been suggested by Agarwal and Day that in the context of innovation in information technology this would mean that innovation refers to an individual’s propensity to have positive beliefs about technology and its use.\(^{29}\) In this study we are looking at the willingness of the student to use the Internet generally and the ATO websites specifically.

Cheung and Huang\(^{30}\) gave consideration to the motivator of social pressure, which was also found to positively relate to Internet usage. Their study also looked at the IT Diffusion Process Model,\(^{31}\) considering the impact of Internet usage as an additional set of variables. This step is of interest to us in our context because it considers the impact of the Internet on learning and on job prospects. Of specific interest is the finding that students perceive that Internet usage provides them with better job prospects.\(^{32}\) They also perceive that Internet usage assists their learning in the areas of general learning, distance learning and constructive learning. The study suggests that:

> Internet use may help students heighten their constructive learning by enhancing their constructive learning motive and strategy. Constructive learning motive and strategy refers to forms of learning behaviour such as 'while I am studying, I often think of real life situations where the material I am learning would be useful', which are generally considered to indicate a higher level of learning. Hence, constructive learning can help universities and instructors to bridge the gap between university education and the needs of business organisations. This gap has become a key issue in university education because universities have sometimes been criticised for failing to meet the requirements and needs of the business world.\(^{33}\)

While it is outside the scope of the current study to consider these additions to the TAM, they are factors that are worthy of consideration in future research.

**IV Hypotheses**

Using the constructs provided by the TAM, in order to determine whether students use or intend to use the ATO websites, we first need to determine their attitudes towards the Internet generally. If students do not use the Internet then it is unlikely that they will choose to use sites located on the Internet. As innovativeness has been positively linked to usage of technology,\(^{34}\) we examine the views of those with high innovativeness in regard to perceived usefulness and perceived ease of use of the Internet. The second stage of the study examines whether perceived usefulness and ease of use of the Internet have a positive relationship with perceived usefulness and ease of use of the ATO site. The third stage of the study examines whether the perceptions of

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\(^{26}\) Foxall and Bhate, above n 25.


\(^{28}\) Drennan, Kennedy and Pisarski, above n 16.

\(^{29}\) Agarwal and Day, above n 27, 101.

\(^{30}\) Ibid.

\(^{31}\) Detmar Straub, ‘The Effect of Culture on IT Diffusion: E-mail and Fax in Japan and the US’ (1994) 5 *Information Systems Research* 23.

\(^{32}\) Cheung and Huang, above n 8, 247.

\(^{33}\) Ibid.

\(^{34}\) Drennan, Kennedy and Pisarski, above n 16.
ease of use and perceived usefulness of the ATO site have changed from the beginning of the term to the end of the term. The final stage of the study examines whether perceived usefulness and ease of use of the ATO site at the end of the term are predictive of the outcome.

Therefore, the hypotheses that are proposed in relation to this study are as follows:

H1: Innovativeness will be positively related to perceived usefulness of the Internet.
H2: Innovativeness will be positively related to perceived ease of use of the Internet.
H3: Perceived ease of use of the Internet will be positively related to perceived ease of use of the ATO.
H4: Perceived usefulness of the Internet will be positively related to perceived usefulness of the ATO.
H5: Perceived usefulness of the ATO will be positively related to perceived ease of use of the ATO.
H6: Perceived ease of use of the ATO rises significantly between the beginning and end of the term.
H7: Perceived usefulness of the ATO rises significantly between the beginning and end of the term.
H8: Perceived ease of use of the ATO at the end of the term and perceived usefulness of the ATO at the end of the term are predictive of the usefulness of the CD-ROM.

V Method

A Survey Instrument

The survey instrument was administered in week two of the term and again in week nine of the term. The first survey was administered after the students had received the CD-ROM but prior to use of the ATO sites for study purposes. In the first survey there was a filter question to ensure that only those students who had already used the ATO websites went on to answer the questions in relation to the site. In the second survey it is assumed that students had reached some level of familiarity with the ATO websites. The first survey is designed to measure perceived usefulness and perceived ease of use of the Internet and the innate innovativeness of the respondents. Further factors that the survey is designed to measure are the perceived usefulness and perceived ease of use of the ATO websites. It also collects information on various personal and situational variables that may influence perceptions such as use of the Internet, Internet enjoyment and Internet access. The second survey was administered after the students had used the CD-ROM, ‘Navigating the ATO’, and completed the related online quiz. The second survey looks at perceived ease of use and perceived usefulness of the ATO websites to ascertain whether there is any difference in the perceptions of the students at the two points in time. The second survey also looks at the students’ attitudes towards the online assessment and whether the CD-ROM was of assistance in completing the online assessment.

B Participants

Participants in the study were students in a third year university course in taxation. There were 594 students enrolled in the course, however, they were not all present at the lectures in which the survey was conducted. Of these, 148 students responded to the survey, giving a response rate of 25 per cent of the total student enrolment in the course. There were 51 male respondents (35 per cent) and 96 female respondents (65 per cent). One student did not nominate gender. The second survey had a response of 102 students (17 per cent). 40 respondents (39 per cent) were
male and 61 respondents (60 per cent) were female with one respondent (1 per cent) not nominating gender.

C Procedure

Lecturers asked all students present at lectures in weeks two and nine to self-complete the survey questionnaires. The questionnaires were accompanied by a consent form and information sheet and respondents were assured that their results would remain confidential and that participation was entirely voluntary. Students studying by flexible mode received the survey questionnaires in the mail. Students were given 15 minutes to complete the survey. Responses were returned to the lecturer at that time, although any student who chose to complete the survey at home and return it later was given the option to do so.

VI Measures

All of the variables below except hours of Internet use were measured using five-point Likert scales.

- **Innate Innovativeness**: was measured using 11 items derived from the Ettlie and O’Keefe\(^{35}\) 20-item Innovative Attitude Scale. Reliability analysis indicated a Cronbach’s alpha of 0.85 on the 11 items.
- **Perceived Ease of Use of the Internet**: there were six ease of use items derived from the original six-item scale of Davis.\(^{36}\) These items include statements relating to ease of learning to use the Internet as ease of learning is considered to be a substratum of ease of use rather than a separate construct.\(^{37}\) These items showed a Cronbach’s alpha of 0.71 when tested for reliability.
- **Perceived Usefulness of the Internet**: These six items were designed specifically for this questionnaire to determine the perceived usefulness of the Internet for study, work and research. Reliability analysis performed on these items indicated a Cronbach’s alpha of 0.68.
- **Perceived Ease of Use of the ATO Sites**: Four original items were used to determine students’ attitudes regarding how easy the ATO websites are to use. These items showed a Cronbach’s alpha of 0.815.
- **Perceived Usefulness of the ATO Sites**: To determine student’s attitudes towards the usefulness of the ATO websites there were four items loosely based on the six-item scale by Davis.\(^{38}\) The Cronbach’s alpha of these items was 0.925.

A number of questions were asked to obtain background information. The first of these is a standard question to determine how many hours the participants use the Internet. There were five response groups as indicated in Table 1. Two of the questions used a five-point Likert scale and were used to determine whether the respondent likes playing with the Internet and whether they find the Internet easy to navigate.

- **Hours of Internet Use**: Students were asked to nominate the range of hours that they used the Internet weekly.


\(^{36}\) Davis, above n 7.

\(^{37}\) Ibid 325.

\(^{38}\) Ibid.
• **Internet Enjoyment**: Students were asked for the level of agreement with the statement ‘I enjoy playing around with the Internet’.

• **Ease of Navigation of the Internet**: Students were asked to respond to the statement: ‘I find it easy to navigate the Internet’, by indicating agreement on the scale from strongly agree to strongly disagree.

In addition, students were asked about their age, number of hours worked outside study, their source of Internet access and reliability of Internet access as background questions to get some insight into the situational variables that may affect the uptake of this technology.

In the second survey reliability analysis revealed the following:

• **Perceived Ease of Use of the ATO Sites at the End of the Term**: Four original items were used to determine student’s attitudes regarding how easy the ATO websites are to use. These items showed a Cronbach’s alpha of 0.691.

• **Perceived Usefulness at the End of the Term**: To determine student’s attitudes towards the usefulness of the ATO websites there were four items loosely based on the six-item scale by Davis. The Cronbach’s alpha of these items was 0.862.

• **Usefulness of the CD-ROM**: Four questions on whether the CD-ROM ‘Navigating the ATO’ was useful in completing the online assessment task. The Cronbach’s alpha of these items was 0.713.

### VII Data Analysis

Responses to the background questions in the first survey tell us that 86 per cent of the respondents in this study are aged between 18 and 30. Ninety five per cent of these are studying a Bachelor of Accounting degree at CQU. Half of the students (54 per cent) work less than 20 hours per week, while a significant number (29 per cent) do not have any paid employment. A small number of students reported working full-time (5 per cent) with 15 per cent reporting over 30 hours of work per week.

In relation to Internet access, most of the respondents have Internet access which they consider to be generally reliable (84 per cent). There is some concern from a teaching perspective, however, that a number of students expressed that they only have occasional access (7 per cent) or no access at all (1 per cent) to the Internet. This is especially worrying since third year accounting students rely heavily on computers to complete their studies, and because the course requires Internet use for assessment tasks. This result is not reflected in course performance however since students have the option to obtain alternative assessment where Internet access is not available. No students chose to avail themselves of this option.

The question about location of access yielded the result that a large majority (75 per cent) access the Internet at home or work rather than at University. Table 1 sets out this background information.

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39 Ibid.
Table 1: Background Information Relating to Employment and Internet Access

<table>
<thead>
<tr>
<th>Background Information</th>
<th>Location of Access</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>At Home</td>
<td>72 per cent</td>
</tr>
<tr>
<td></td>
<td>At Work</td>
<td>3 per cent</td>
</tr>
<tr>
<td></td>
<td>At University</td>
<td>24 per cent</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1 per cent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Access to the Internet</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Generally Reliable</td>
<td>84 per cent</td>
</tr>
<tr>
<td>Minor Problems with Access</td>
<td>8 per cent</td>
</tr>
<tr>
<td>Can Occasionally get Access</td>
<td>7 per cent</td>
</tr>
<tr>
<td>No Access</td>
<td>1 per cent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours Worked Outside Study</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>29 per cent</td>
</tr>
<tr>
<td>Less than 10 hours</td>
<td>7 per cent</td>
</tr>
<tr>
<td>11 – 20 hours</td>
<td>47 per cent</td>
</tr>
<tr>
<td>21 – 30 hours</td>
<td>2 per cent</td>
</tr>
<tr>
<td>31 – 40 hours</td>
<td>10 per cent</td>
</tr>
<tr>
<td>More than 40 hours</td>
<td>5 per cent</td>
</tr>
</tbody>
</table>

Internet usage of less than 10 hours per week was reported by more than half (62 per cent) of respondents. A small per centage (16 per cent) reported high-level Internet usage of more than 21 hours per week. Interestingly, when these results were broken down by gender, the majority of female respondents reported Internet usage of less than 10 hours per week (71 per cent) while less than half (45 per cent) of male respondents reported that level of usage. High-level Internet usage of over 21 hours showed a corresponding difference with only 14 per cent of female students reporting this level of usage and 22 per cent of males. This difference in response contrasts with responses to the statement: ‘I like playing around with the Internet’, which has an almost identical response rate for both male and female respondents. The overall response rate to this question indicates that only 22 per cent of students do not like playing around on the Internet.

Table 2: Hours of Internet Use per Week

<table>
<thead>
<tr>
<th>Hours Used Per Week</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5</td>
<td>14.3 per cent</td>
<td>32.3 per cent</td>
<td>26 per cent</td>
</tr>
<tr>
<td>6 – 10 hours</td>
<td>30.6 per cent</td>
<td>38.5 per cent</td>
<td>36 per cent</td>
</tr>
<tr>
<td>11 – 15 hours</td>
<td>22.4 per cent</td>
<td>11.5 per cent</td>
<td>15 per cent</td>
</tr>
<tr>
<td>16 – 20 hours</td>
<td>10.2 per cent</td>
<td>4.2 per cent</td>
<td>7 per cent</td>
</tr>
<tr>
<td>More than 20 hours</td>
<td>22.4 per cent</td>
<td>13.5 per cent</td>
<td>16 per cent</td>
</tr>
</tbody>
</table>

A Pearson correlation matrix was used to test the first two hypotheses. The Pearson correlation matrix for hypotheses H1 and H2 is shown at Table 3. The first hypothesis that innovativeness will be positively related to perceived usefulness of the Internet has been supported. Perceived usefulness has been shown to be a strong predictor of Internet use. This result would be expected
as results in prior studies have shown that there is a positive relationship between innovativeness and perceived usefulness.\(^{40}\)

The second hypothesis that innovativeness will be positively related to perceived ease of use of the Internet is also supported. This shows that those who consider themselves to be innovative in attitude also perceive that the Internet is easy to use.

### Table 3: Pearson Correlation Matrix for Internet

<table>
<thead>
<tr>
<th>Variable</th>
<th>Perceived Usefulness of Internet</th>
<th>Perceived Ease of Use of Internet</th>
<th>Innovativeness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness of Internet</td>
<td></td>
<td>.156</td>
<td></td>
</tr>
<tr>
<td>Perceived Ease of Use of Internet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovativeness</td>
<td>.494**</td>
<td>.367**</td>
<td></td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.01 level (2 tailed)  
** Correlation is significant at the 0.05 level (2 tailed)

The second stage of this study examines whether there is a relationship between perceptions of the Internet and perceptions of the ATO websites. This part of the study required a close analysis of responses from students who had actually used the ATO websites. There were 117 responses indicating prior use of the ATO websites.

The second stage of the study considers the hypotheses H3, H4 and H5. A Pearson correlation matrix is used to test the hypotheses. The Pearson correlation matrix for hypotheses H3 to H5 is shown at Table 4. Hypothesis H3 — that perceived ease of use of the Internet will be positively related to perceived ease of use of the ATO — is not supported. This is a surprising finding.

### Table 4: Pearson Correlation Matrix for ATO

<table>
<thead>
<tr>
<th>Variable</th>
<th>Perceived Usefulness ATO</th>
<th>Perceived Usefulness Internet</th>
<th>Perceived Ease of Use ATO</th>
<th>Perceived Ease of Use Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness ATO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Usefulness Internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Ease of Use ATO</td>
<td>.312**</td>
<td>.181</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Ease of Use Internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis H4 that perceived usefulness of the Internet will be positively related to perceived usefulness of the ATO has been supported. Those who find the Internet to be useful also find the ATO websites to be useful. Interestingly, while perceived ease of use of the Internet was not positively related to perceived ease of use of the ATO, it was positively related to perceived

\(^{40}\) Drennan and Kennedy, above n 25.
usefulness of the ATO. Therefore, even though students did not find the ATO sites easy to use they still found the sites to be useful.

Hypothesis H5 states that perceived usefulness of the ATO and perceived ease of use of the ATO will be positively related. This hypothesis is supported. This finding is similar to earlier findings using TAM\textsuperscript{41} where these two factors have shown a significant positive relationship.

The third stage of the research tested whether there was a significant difference between student perceptions of perceived ease of use and perceived usefulness of the ATO websites, before and after completing the online assessment with the aid of the ‘Navigating the ATO’ CD-ROM. The results as shown in Table 5 indicate that the exercise has had minimal effect in changing student attitudes. There is a slight upwards shift in perception but this is insignificant.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Use of ATO survey 1</td>
<td>123</td>
<td>9.32</td>
<td>3.82</td>
</tr>
<tr>
<td>Ease of Use of ATO survey 2</td>
<td>98</td>
<td>10.3</td>
<td>3.37</td>
</tr>
<tr>
<td>Perceived Usefulness of ATO survey 1</td>
<td>126</td>
<td>14.87</td>
<td>4.52</td>
</tr>
<tr>
<td>Perceived Usefulness of ATO survey 2</td>
<td>99</td>
<td>15.47</td>
<td>3.22</td>
</tr>
</tbody>
</table>

The final stage of the study involves a multiple regression analysis to determine whether the usefulness of the CD-ROM could be predicted by the perceived ease of use and perceived usefulness of the ATO at the end of the term. The results of this analysis indicated that perceived ease of use of the ATO at the end of the term and perceived usefulness of the ATO at the end of the term accounted for a significant portion of the outcome variability: $R^2 = .16$; $F(2,89) = 9.82$; and $p<.01$.

This indicates that students who believed that the ATO was useful at the end of the term also scored highly on the usefulness of the CD-ROM variable. Similarly, students who believed that the ATO websites were easy to use scored highly on the usefulness of the CD-ROM variable at the end of the term. Students who scored highly on the usefulness of the CD-ROM variable believed that the CD-ROM ‘Navigating the ATO’ was useful in completing the online assessment task.

The results of this study in respect of each Hypothesis are summarised in Table 6.

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\textsuperscript{41} Davis, above n 7.
Table 6: Summary of Results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Statement of Relationship</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Innovativeness will be positively related to the perceived usefulness of the Internet</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>Innovativeness will be positively related to perceived ease of use of the Internet</td>
<td>Supported</td>
</tr>
<tr>
<td>H3</td>
<td>Perceived ease of use of the Internet will be positively related to perceived ease of use of the ATO</td>
<td>Not supported</td>
</tr>
<tr>
<td>H4</td>
<td>Perceived usefulness of the Internet will be positively related to perceived usefulness of the ATO</td>
<td>Supported</td>
</tr>
<tr>
<td>H5</td>
<td>Perceived usefulness of the ATO and perceived usefulness of the ATO will be positively related</td>
<td>Supported</td>
</tr>
<tr>
<td>H6</td>
<td>Perceived ease of use of the ATO at the beginning of the term is positively related to perceived ease of use of the ATO at the end of the term</td>
<td>Not supported</td>
</tr>
<tr>
<td>H7</td>
<td>Perceived usefulness of the ATO at the beginning of the term is positively related to perceived usefulness of the ATO at the end of the term</td>
<td>Not supported</td>
</tr>
<tr>
<td>H8</td>
<td>Perceived ease of use of the ATO at the end of the term and perceived usefulness of the ATO at the end of the term are predictive of the usefulness of the CD-ROM.</td>
<td>Supported</td>
</tr>
</tbody>
</table>

VIII Discussion

This exploratory study has shown, first, that innovativeness is positively related to the factors that have been shown to determine Internet usage, perceived ease of use and perceived usefulness. This indicates that those students who believe that they are highly innovative individuals believe that the Internet is easy to use and that it is a useful tool to them. This is especially relevant for lecturers and teachers taking subjects requiring use of the Internet, who should recognise this link between a student’s innovativeness, and their ability to make use of the Internet as a resource. Further, innovative attitudes are inherent to the individual and not easily changed, and it is natural that some students will be more difficult to convince regarding its benefits.

This study has also found that those who believe that the Internet is easy to use do not believe that the ATO websites are easy to use. This may be due to the implicit complexity of the ATO websites. The complexity of the sites is caused by the fact that they contain a large amount of information and this information is updated constantly. This leads to a number of different navigational paths to search for any one piece of information. While this complexity may be necessary given the amount of information contained on the sites, it seems that this makes the site more difficult to use. Research on technology generally has shown that as time passes ease of use has a less significant impact on usage because the technology becomes more familiar to users. Surprisingly, however, even after the students have used the CD-ROM ‘Navigating the ATO’ and have completed the online assessment testing their navigational skills, their perception that the ATO sites are difficult to use has not changed significantly.

42 Ibid.
The positive relationship between perceived usefulness of the Internet and perceived usefulness of the ATO shows that there would be some benefit in ensuring that students are familiar with the Internet prior to studying tax. This is so, particularly given that perceived ease of use of the Internet is also related positively to perceived usefulness of the ATO. If students are shown that the Internet is a useful tool for research in earlier subjects then they will be more likely to perceive that tax sites located on the Internet will also be useful. Further, if their learning is supervised, it will allow lecturers to explain the distinction between credible sources and non-credible sources of information. This has important consequences for those wishing to go into practice following study as they will be well on the way to developing a skill readily transferable to an accounting workplace.

This study shows that students who are innovative find the Internet useful and they find it easy to use. These students recognised the benefits of the ATO websites, although the sites were not considered user-friendly even after they had been given training. The ATO sites are the primary source of freely available tax information. It is therefore imperative that students are given assistance in using these sites so that these valuable sources of tax information can be effectively utilised both for study and for work.