

**An investigation into usage of, and attitudes towards, e-books for  
academic study among tertiary students in New Zealand**

**by**

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## **Abstract**

**Research problem** - E-books provide enormous benefits to libraries and academic libraries in New Zealand have been quick to develop their e-book collections. The implications of the move from print to digital resources are of critical importance to the future of academic libraries. Little research has been done in this country, however, about the usage of, and attitudes towards e-books in an academic setting. This research aimed to add to this understanding, while at the same time provided the University of Waikato Library with information that will help service provision with regard to e-books.

## **Methodology**

A quantitative study was carried out with a sample of students from the University of Waikato to achieve a wide range of responses across faculties and types of student through a combination of online and hard copy questionnaire. Respondents were drawn from the student population of the University of Waikato. The University has over 12,000 students including over 1700 postgraduates.

## **Results**

There were 104 completed questionnaires. Compared to previous research, this study has found that students at the University of Waikato seem to have greater awareness of e-books, use e-books more, and have much higher levels of satisfaction with the ease of finding and using e-books. Many respondents were positive about e-books, mainly due to perceived convenience, but, when it comes to preference for book format, this study suggests that users retain a preference for print material.

## **Implications**

Academic libraries in New Zealand, quick to develop their e-book collections, need to be aware that, although knowledge of, and usage of e-books both seem to have increased rapidly in recent years, user preference remains resolutely in favour of print books. Further research is needed in other academic institutions in New Zealand to develop a more complete picture of student usage and attitudes towards e-books.

**Keywords:** E-books, digital resources, electronic resources, preference, attitudes, usage, students, academic libraries, university, tertiary institutions.

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# 1 Introduction

## 1.1 Background

Academic libraries in New Zealand have seen a dramatic move away from print material towards digital material, to a point where New Zealand academic library spending on electronic resources in 2014 totalled over \$55 million (Council of Australian University Libraries, 2014).

As part of this process libraries have been quick to develop e-book collections. E-book acquisitions went up over 500% from 2008 to 2010 in Australasian university libraries (Council of Australian University Libraries, as cited in Ahmad & Brogan, 2012, p. 190). By 2014 academic libraries in New Zealand had nearly 3 million current e-book titles in their collections (Council of Australian University Libraries, 2014).

The benefits of e-books, from the point of view of libraries, are enormous. They have great potential to be an effective educational tool, offering flexibility of format including the use of graphics (Minčić-Obradović, 2011, p. 161). They offer remote 24 hour access, savings in physical space, need minimal processing and cataloguing, provide multiple simultaneous access, and prevent the loss of, or damage to, books. They do, however, present some challenges including access, preservation and archiving, and promotion (Abdullah & Gibb, 2008, p. 594; Rojeski, 2011, p. 228).

Technological change over recent years has been rapid. A recent survey of the general population in New Zealand showed that of 92% of Internet users who have access to a mobile phone, three-quarters say they have access to a smart-phone, nearly half have access to a tablet, and nearly one-fifth have access to an e-reader (Gibson et al., 2013, p. 3).

Tertiary students are leading increasingly connected lives and are often assumed to be digital natives, completely at ease with using technology to access information (Yong & Gates, 2014). Studies have consistently demonstrated, however, that there is a discrepancy between librarian and user attitudes towards e-books (Ashcroft, 2011 p. 399), with students often favouring hard copy texts over their electronic counterparts (Woody, Daniel, & Baker, 2010).



## **1.2 Research justification**

The implications of the move from print to digital resources are of critical importance to the future of academic libraries. As more university resources are devoted to e-books, libraries need to demonstrate their value to users (Crosetto, as cited in Ahmad & Brogan, 2012, p. 190), yet some argue that libraries are still more interested in content, rather than meeting the needs of their customers (Nicholas, as cited in Minčić-Obradović, 2011, p. 189).

Lamb's (2012) research project looked at the attitudes of Waikato University academic staff towards e-book usage, and a small-scale survey into user attitudes was conducted in 2004 at the University of Auckland, and then repeated in 2010 (Minčić-Obradović, 2011). Little other research has been carried out into attitudes towards e-books in New Zealand tertiary institutions.

There is a need to improve understanding of New Zealand tertiary student attitudes towards e-books. The purpose of this study is to add to that understanding. Knowing user needs, and adjusting service provision to meet these needs, is increasingly important for institutions in a competitive global education market. The study is also designed to assist New Zealand tertiary libraries in improving their service provision, with regard to e-books.

## **1.3 Definitions**

### **1.3.1 University students**

A university student is, for the purposes of this study, defined as a person who is currently undertaking a course of study at a university. This might include undergraduates and postgraduates, and also distance students. This study will focus on current students at the University of Waikato in Hamilton, New Zealand.

### **1.3.2 E-books**

The main emphasis of this research is the use of e-books for academic study, not for recreational purposes. The definition used in this study, therefore, combines a simple definition from the Collins English Dictionary ("E-book," 2006, p. 494) of 'a book in electronic form' combined with an emphasis on academic study. Hence: 'books in electronic form used for academic study'.

Students at the University of Waikato have access to e-books from a variety of sources. The University Library provides access to e-books using a variety of platforms, searchable through the University catalogue, their Library Search discovery layer, through individual databases and through an e-book search tool. E-books are also provided in publisher packages such as SpringerLink and reference e-book databases such as Credo and Oxford. The Library utilises a system of patron driven acquisition (PDA) for the purchase of part of their collection.

Ebrary and Ebsco are the two most common platforms for individual e-book titles provided by the University. Others include Wiley and Palgrave. Most platforms allow some form of functionality including note taking and highlighting. E-books can generally be read on the screen or downloaded. Printing is possible but with restrictions.

### **1.3.3 Usage**

Usage relates to any interaction with e-books including awareness, sourcing, and finding of e-books; and interaction with e-book functionality.

### **1.3.4 Attitude**

The Collins English Dictionary definition of attitude will be used for this study– ‘the way a person views something or tends to behave towards it, often in an evaluative way’ (“Attitude,” 2006, p. 94).

## **2 Literature review**

### **2.1 Overview**

A number of studies have been carried out over the last 15 years. Most have been surveys in a particular institution, such as Gregory (2008), Shelburne (2009), and Rojeski (2012), although some larger scale projects across institutions have been conducted (JISC, as cited in Minčić-Obradović, 2011).

Although the majority of research has been undertaken in the U.S., research has been carried out in other countries, such as Rowlands, Nicholas, Jamali, & Huntington (2007) in the UK, and, Ahmad and Brogan in Australia (2012).

Common topics have emerged across studies which are highlighted in this literature review. Awareness of e-books is often analysed, as is how e-books are sourced. Usage patterns are another common theme, as are the advantages and disadvantages of e-books compared to print material.

A key topic for most studies has been user preference for format with different studies being remarkably consistent in their findings in this area. A number of studies have also looked at how usage and attitudes might differ between genders, age groups, and subject areas.

### **2.2 Usage of e-books**

Studies have consistently demonstrated limited usage of e-books by tertiary students. In their data mining study at Edith Cowan University in Australia, Ahmad and Brogan (2012) found that more than 95% of EBL e-book titles were never read (p. 204). Gregory (2006), surveying a random selection of undergraduates at the College of Mount St. Joseph in Ohio, found that only 39% of respondents had used an e-book (p. 269). Abdullah and Gibb (2008), surveying undergraduates and postgraduates at Strathclyde University in Scotland, discovered similar usage, with 40% of students having used an e-book (p. 601).

Shelburne's (2009) study of students and lecturers at the University of Illinois, suggested things were improving slightly with 57% of respondents having used an e-book (p. 61) but

later studies found minimal usage. Ahmad and Brogan (2012) found that 68% of students had not engaged with e-books (p. 210), while de Oliveira's (2012) research at St. Andrew's University in Scotland found that only 12% of respondents had used an e-book for academic study (p. 542).

When students have used e-books, it is often because it was provided in online course material by their lecturer. Ahmad and Brogan's (2012) study found that, of the ten most frequently used e-books, half had embedded links in course material or reading guides (p. 204). Most research suggests that student interactions with e-books are fairly brief, although some studies suggest this might be changing (Nicholas et al., as cited in Slater, 2010, p. 310). A small percentage of users seem responsible for a large percentage of e-book usage. Ahmad and Brogan (2012) talk of the importance of the 'power user' (p. 201).

Studies suggest that e-books are used in different ways to print books with very few students reading an e-book cover-to-cover (De Oliveira, 2012, p. 547). Wilkinson's 2010 study (as cited in Minčić-Obradović, 2011, p. 189) on how students search and retrieve information from electronic texts showed that students tend to skim electronic texts rather than reading sections, searching for relevant information.

According to Rojeski's (2012) study at Dickinson College in Pennsylvania, many students now have mobile devices, changing the way they interact with library resources (p. 228), although when it comes to e-books, students tend to access them using desk top computers and lap-tops. Attempts to use devices, such as Kindles, have met with a largely negative response from users (Slater, 2010, p. 321).

### **2.3 Awareness of e-books**

One of the key problems for e-book usage in academic libraries has consistently been shown to be a lack of awareness of their availability. Shelburne's (2009) study found that 41% of non-users said their lack of use was because they did not know they were available (p. 61). Abdullah and Gibb (2008) found low levels of awareness of e-books with users commenting that e-books were not widely advertised or promoted (p. 593).

A number of studies have stressed the importance of increased promotion of e-books within academic libraries, with the library web site and user guides being the most effective marketing channels for e-books (Rowlands et al., 2007, p. 508).

## **2.4 Sourcing e-books**

Research suggests that, even when it comes to academic research, e-book users tend to avoid using library resources. Rowlands et al. (2007) conducted a study at the University College, London, and found that e-book users were relatively independent of library provision, with only 39% of users sourcing titles through the library (p. 496).

In more recent studies the pattern has been similar. Corlett-Rivera and Hackman (2014) carried out a study with humanities and social science students at the University of Maryland. They found that nearly half of regular e-book users sourced their academic research e-books from commercial, non-library sites (p. 265).

## **2.5 Advantages of e-books**

Students do like some aspects of e-books including their greater convenience and portability, and searching functions (Weisberg, 2011, p. 194). Greater access is appreciated compared to course reserve textbooks (Shelburne, 2009, p. 62), and it is recognized as an environmentally friendly option (Wu & Chen, 2011, p. 300).

Rojeski (2011) found that the most appealing features for respondents were accessibility from any location, ease of searching, and the fact that they didn't have to fight for the limited library copies of a text or incur the cost of buying their own copy (pp. 233-235). Research suggests cost is a major factor for students. Although the additional cost of e-books means students are unlikely to purchase their own e-book copy instead of a print version, they are enthusiastic about accessing a free library e-book as an alternative to purchasing the print copy themselves. Some studies have shown however, that if the print copy is cheap enough, students will prefer this over a free e-book (Robinson & Stubberud, 2012, p. 101).

Students, therefore, can see some advantages of e-books compared to print books although research does suggest that many users are unaware of many of the features that are available in e-books such as highlighting (Abdullah and Gibb, 2008, p. 601).

## **2.6 Disadvantages of e-books**

Most research on e-book usage in academic settings demonstrates that, for most users, the disadvantages of e-books far out-weigh the advantages. A basic, but often overlooked, issue with e-books is that they require access to the Internet and this can be a particular problem when trying to use e-books in a classroom (Shepperd, Grace & Koch, 2008, p. 2).

Most e-book vendors employ restrictions on how e-books can be used, often involving enforcing digital rights management (Slater, 2010, p. 313). Students have issues with aspects of e-book usage such as the ability to study with on-screen resources, downloading and printing problems, and a basic lack awareness of library e-books (Buczynski, 2010).

The ease of reading on the screen is a central problem, according to research. Rowlands et al. (2007), for instance, found that e-books compared unfavourably with print titles when it came to perceived ease of reading (p. 500). According to Gregory (2006), students had issues with ease of use and the eye strain (p. 271).

Rojeski (2011) outlined a list of issues respondents had with e-books including problems of reading on a screen, printing restrictions, an inability to download text, lack of compatibility with e-book readers, and the inability to easily bring texts to class (pp. 233-235). De Oliveira's (2012) study found complaints including the difficulties of scrolling, note taking, and reading on a screen (p. 542).

The lack of a standard approach from e-book vendors and a less-than seamless access provided by libraries are both seen as disadvantages by users. Students find themselves having to learn how to use e-books from different vendors with different appearance, navigation, and functionality (Minčić-Obradović, 2011, pp. 184-185). Many struggle to find e-books in the first place, and, as Buczynski (2010) points out, there is little point in libraries investing heavily in e-books if their users can't find them (p. 17).

Lack of availability of key textbooks in electronic format remains a major issue. Corlett-Rivera and Hackman (2014) found that many of their respondents cite the lack of available e-books in their field, with 65% of regular users indicating that greater availability would make them more likely to use e-books (p. 271).

## **2.7 Preference**

Studies have consistently shown that tertiary students have a preference for print books over e-books. Gregory (2006) found 66% would choose print over electronic copy (p. 269). Rowlands et al. (2007) discovered that over 60% of respondents had a preference for print books over electronic (p. 492). In Shepperd et al.'s (2008) study at Florida University, psychology students were given a choice of formats for a book. 90% chose print (p. 3).

De Oliveira's (2012) study discovered that students found printed books better for quick referencing, convenience, ease of navigation, browsing, portability, storage, and searching and those students who used the print books thought it very unlikely that they would acquire or use an e-book in the future (pp. 551- 554).

Some recent research suggests a greater acceptance of e-books for some types of book, although, overall, there remains a preference for print format (Corlett-Rivera & Hackman, 2014, p. 268). Walton (2014) found that where a print book is available students will still chose it over an e-book (p. 263). Brinkman and Krivickas (2015) talk of a hard core of "print loyalists" (p. 86). Some factors have seen a change over the years but preference for print format has remained relatively consistent.

## **2.8 Segmentation**

As Rowlands et al. (2007) point out, the demographics of e-books usage are complex as factors such as age, gender, and subject specialism all interact with one another in different ways (p. 494). Most studies do, however, suggest few differences based on type of student. Robinson and Stubberud's (2012) study with business students at a Norwegian college and a small U.S. university, for instance, found that there are few differences based on location or gender, although men were more likely to want e-books for mobile devices (p. 103). Woody

et al.'s (2010) study with U.S. psychology students found that gender and previous usage had limited impact (p. 947). Rowlands et al. (2007) found that neither status (full-time/part-time) nor regularity of use of print library collections were associated with existing e-book usage (pp. 494-495) and that other factors, such as liking for reading from a screen, were unaffected by age (p. 500).

Other studies suggest that e-book usage increases as students go through their degrees – third year students, for instance, being more open to using them than first year students (Shepperd et al., 2008, p. 3). Age was a factor, according to some studies, with younger students more likely to use e-books (Aharony, 2013, p. 74; Miller, Nutting, & Baker-Eveleth, 2013, p. 48). There is also evidence that suggests students from lower income backgrounds are more likely to use e-books, for reasons of cost (Miller et al., 2013, p. 45).

One area of difference is field of study, with a number of studies reporting that e-book usage varies among different subject areas. Wu and Chen (2011) found that Taiwanese medical students preferred e-books, suggesting that this was because medical textbooks were more easily read from the screen (p. 303). Miller et al.'s (2013) study with Idaho University students discovered that more technical subject areas such as science and engineering saw greater e-book usage (p. 48).

## **2.9 Methodology and theoretical framework**

A range of approaches have been undertaken by researchers. Some studies undertook statistical log analysis studies looking at actual usage (Ahmad & Brogan, 2012), while others, such as Corlett-Rivera and Hackman (2014) focused on in-depth studies in specific departments. There have also been literature reviews carried out on the topic, such as Slater (2010), and Walters (2014).

Online surveys were common with many using software such as SurveyMonkey. Most studies relied on self-selecting samples (Rowlands et al., 2007; Abdullah and Gibb, 2008), although others targeted specific sections of the student population (Gregory, 2006). Some studies provided students with a choice of hard copy and e-book options for a particular course creating a controlled environment for the study (De Oliveira, 2012). Other studies



used focus groups in addition to the survey, in order to gain greater understanding of attitudes (Rojeski, 2011).

Use of theory was limited, with most studies opting for relatively straightforward analysis of attitudes, as stated, in questionnaires. Few looked at underlying explanations behind stated attitudes, although Aharony (2014) attempts to better understand factors that influence attitudes to e-books through the use of the Technology Acceptance Model (TAM) and Cognitive Appraisal Theory. The concepts of challenge and threat were used to assess reasons for attitudes and behaviour towards e-books, stressing the importance of other factors when considering technology acceptance (p. 112).

Some later studies have tried to look in more detail at the reasons behind specific attitudes using such methods as a mixed-methods technique known as Q-methodology to look at distinct opinion types to gain a better understanding of attitudes. This approach uses more of a quantitative approach to look at qualitative data and identifies specific personal viewpoints (Brinkman and Krivickas, 2015, p.74).

## **2.10 Conclusion – the future of e-books in academic libraries**

Some researchers seem optimistic about the future of e-books in academic libraries, suggesting that it is inevitable that students will become more comfortable with reading books on computers (Shepperd et al., 2008, p. 5). Students have, after all, readily adopted e-journals. The move towards digital resources will not, it is argued, reverse. The question is not if, but how, e-books are provided (Minčić-Obradović, 2011, p. 194).

Other researchers suggest, however, that student attitudes towards e-books are more conservative than attitudes towards e-journals (Wu & Chen, 2011, p. 304), and that libraries still have a long way to go in convincing users of the advantages of using e-books for academic study.

Insufficient training in using e-books remains a problem. Users are usually expected to be able to download e-books and make use of all aspects of their functionality without training in how to do this. McKeil (as cited in Slater, 2010) suggests that better training could solve nearly all of the issues related to usage, apart from difficulties with reading on screen (p. 319). Others have suggested it would be better to make e-books easier to use rather than

trying to teach students to deal with a difficult interface and vendor restrictions (Slater, 2010, p. 319).

Research suggests using digital rather than print resources does not have a negative impact on the quality of learning (Weisberg, 2011, p. 195), but issues remain with academic e-book usage and, although recent studies point towards attitudes changing slightly, user preference is still strongly in favour of print books over electronic. At the very least, students expect libraries to offer both print and electronic material in the future (Wu & Chen, 2011, p. 304).

### **3 Research objectives and design**

#### **3.1 Research questions and objectives**

The research topic is:

An investigation into usage of, and attitudes towards, e-books for academic study among tertiary students in New Zealand.

The two central research questions for this study are:

- How are e-books used by New Zealand tertiary students for academic study
- What are the attitudes of New Zealand tertiary students towards e-book usage for academic study

Supplementary questions are:

- What are the reasons underlying the attitudes of users?
- What are the implications for New Zealand tertiary Library service provision of user attitudes towards e-books?

The main objective of the research was to improve understanding of tertiary student attitudes towards e-book use in academic study in New Zealand. The results could well have broader application in other countries with widespread e-book usage in tertiary education. The study surveyed students currently studying at the University of Waikato. A secondary objective was to improve the University Library's service provision to its users, with regard to e-books.

#### **3.2 Research design**

The study focused on a quantitative study of students at the University of Waikato in Hamilton, New Zealand. This provided students with anonymity in order to express their true opinions, and also provided a more representative sample than might be achieved with selected qualitative interviews.

Using a quantitative, rather than qualitative, approach provided data from a wide range of the diverse student population, giving an insight into different opinions, and allowing some analysis based on demographics.

The types of questions asked were a critical determinant of the study's success in understanding the attitudes of students towards e-books. The questionnaire was developed using a combination of questions from previous studies, and specific questions created to provide some understanding of reasons behind attitudes.

With the permission of the original report author, some questions were replicated from Lamb's (2012) study with University of Waikato academics. This allowed some comparison of staff and student usage and attitudes towards e-books at the same institution.

Assessing attitudes is a central part of the study. A number of the questions therefore used a ratings, or Likert scale to give respondents the opportunity to choose an option that most represents their opinion, such as questions ranging from very important to not very important, and strongly agree to strongly disagree (Leedy & Ormrod, 2013, p. 192).

Attitudes can cause behaviour, but behaviour can also have an impact on attitudes (Forgas, Cooper, & Crano, 2010). If, for instance, negative attitudes are the result of ignorance about e-book functionality, this could have implications for how libraries approach e-book provision and promotion.

The use of some open-ended questions provided a means of obtaining more in-depth understanding of attitudes, providing the space and flexibility for students to explain in greater detail the reasons behind certain attitudes.

## **4 Methodology**

### **4.1 Population and sample**

Respondents for this study were drawn from the student population of the University of Waikato. The University has over 12,000 students, over 7000 of which are female. This includes over 1700 postgraduates. Students are primarily based at the Hamilton campus, although the university does also have a number of distance students and a presence in Tauranga (University of Waikato, 2014).

Permission was obtained from the University Librarian at the University of Waikato to carry out research in the Student Centre – a central building in the University housing the Library, the Postgraduate Centre, the Finance Office, and Student Services – and also online with students who have used Library services. It is likely, therefore, that a large percentage of respondents would have been students using the Library and that non-users of the Library will be under-represented in the sample.

For certain groups there were not enough respondents to have a robust sample for effective cross tabulations. The School of Maori and Pacific Affairs, and older age groups such as the over 50s, for example, had limited numbers of respondents. Cross tabulation analysis in the study focuses on areas where the sample provides enough data for meaningful analysis.

The total number of respondents completing the questionnaire was 104. The sample obtained did include a cross-section of the student population with regard to age, gender, and faculty of study, and included both undergraduates and postgraduates together with some distance students.

It is, however, a small sample of the total student population. It is not possible to draw definitive conclusions about the entire student population of the University, or the entire student population of New Zealand. The study represents a snapshot of usage and opinion at one university that raises some interesting issues that need further study.

## 4.2 Data collection

A quantitative survey was used to achieve a wide range of responses across faculties and types of student. In order to reduce bias and obtain data from students comfortable with both electronic and print formats, and to obtain as robust a sample as possible (response rates for online surveys can be poor), an online questionnaire and a paper questionnaire were both used.

Pilot studies for both the online and hard copy questionnaires were undertaken to ensure that questions were appropriate and to ensure that responses provided adequate data to address the research questions. This also provided information about the success of branching in the questionnaire and the length of the survey.

Branching was employed so that questions on University Library e-books were only asked to students who had used e-books provided by the Library. A negative response to question 9 on the awareness of e-books provided by the Library, or to question 10 on whether the respondent had ever used an e-book provided by the Library, meant these respondents went straight to question 19 on important factors that might have an impact on e-book usage.

The online questionnaire was produced using the Qualtrics Survey Tool. This software provided the opportunity to develop questions that fully capture the views of the respondents, and provided the opportunity for branching to make participation as easy and understandable as possible. It also provided the opportunity to use Victoria University of Wellington branding, providing additional clarity about the origins of the study.

Collaboration with the University of Waikato Library was crucial to the success of the project. The study was promoted through library channels including help desks and tutorials and with the assistance of Library staff. Hard copy questionnaires were placed on information desks and staff encouraged students to take part in the research. Questionnaires were also handed out to students outside the Student Centre building. Boxes were provided for completed forms.

Promotion for the study and a link to the questionnaire were made available on the University Library Facebook page and some faculty student Facebook pages. Use of an

online survey and social media helped to reach different types of student including distance students.

Data collection was carried out between the 22<sup>nd</sup> of July and 28<sup>th</sup> August 2015. The timing was designed to allow data gathering during the student academic year. Steps were taken to ensure anonymity throughout the process. No names were collected and questionnaires will be destroyed after an appropriate period. Initial questions on the questionnaire established eligibility for the study; i.e. whether they were a current student at the university. An information sheet and a consent form were provided to respondents (see Appendix A). Qualitative responses from open-ended questions were compiled and grouped with occasional quotes.

### **4.3 Ethical considerations**

Ethics approval was sought, and obtained, from the Human Ethics Committee (HEC) for the School of Information Management at Victoria University of Wellington. Permission was sought, and obtained, from the University of Waikato Library regarding promotion of the survey and any reporting of the findings. Consultation with the University was carried out at all stages to ensure confidentiality and anonymity for all respondents.

In order to obtain segmentation of data, some questions were asked concerning the age, gender, level of study, and faculty. Information has been treated in strictest confidence and all identifying factors were removed from the final report to ensure anonymity. If it was possible to identify individual participants as a result of responses, steps were taken ensure anonymity, including the removal of any sections or comments from the final report.

All possible efforts were made to assure the privacy of respondents is respected.

Respondents were informed of the nature of the study and the reasons for the collection of this information so that they could provide informed consent for participation.

### **4.4 Data analysis**

Analysis is in the form of tables and graphs, together with discussion of the findings, combined with summary topics resulting from the open-ended questions to provide

additional detail. Previous studies have been cited to provide a framework for discussion and some results were compared to similar studies, including Lamb's (2012) research project undertaken with academic staff at Waikato University.

In order to gain a more in-depth understanding of attitudes, and to help provide targeted responses by the University of Waikato Library to improve service provision, some segmentation analysis has been provided based on gender, age, faculty, and also level of study. Analysis of the data has been undertaken specifically to address the research questions and to highlight key issues including awareness of e-books, use of e-books, preference, and reasons for preference. Due to rounding up, some percentages may not add up to 100%.

There were 51 respondents who completed the online questionnaire and 53 who completed the print questionnaire. Open-ended questions provided additional depth and insight. The results, discussion, conclusion, and implications provide some interesting insights into the usage of, and attitudes towards, e-books for academic study at a New Zealand tertiary institution.

#### **4.5 Publication venues**

The study will be made available through ResearchArchive – Te Puna Rangahau, Victoria University of Wellington's research repository. Providing feedback to study respondents is an essential part of any research project. After consultation with the University of Waikato Library to gauge the most effective way of disseminating study results, a decision was taken to provide a summary of the research on the University Library website within two months of the completion of the study.

Results from the study might make an interesting presentation at conferences such as the Library and Information Association of New Zealand (LIANZA) conference and the Tertiary Libraries Special Interest Group (TELSIG) conference.



## 5 Survey results and discussion

### 5.1 Question 1: status of respondents

Respondents were asked to record their status from a choice of student at the University of Waikato, University of Waikato distance student, or not a student at the University. The study is with students of the University of Waikato. This opening question was to screen respondents to make sure they were student at the University and to find out if some respondents were distance students. 108 respondents answered this question.

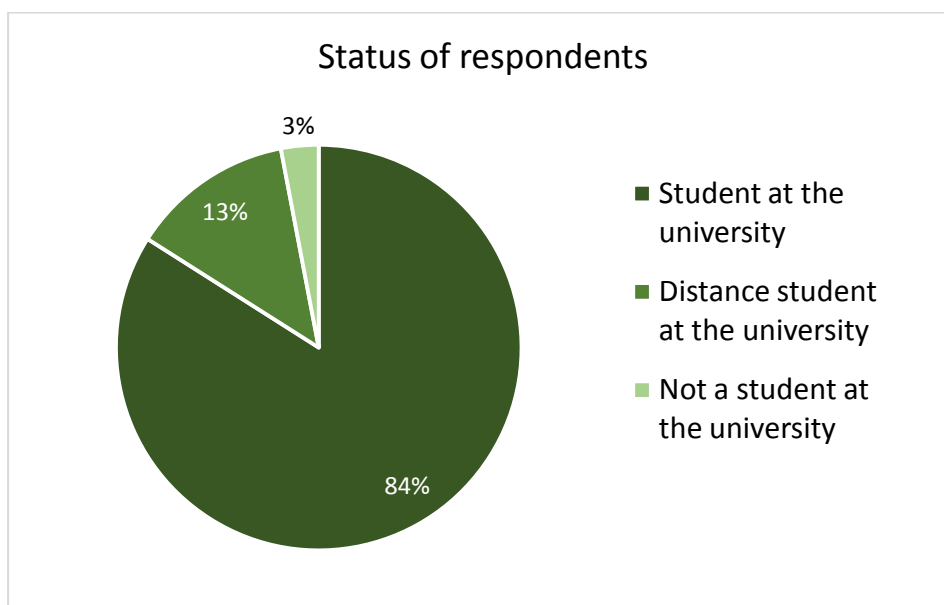


Figure 1. Status of respondents

84% of respondents were students at the University, 13% were distance students at the University, and 3% were not students at the University. The 3% that were not students at the University were guided to the end of questionnaire and answered no further questions.

Having a print questionnaire and an online questionnaire was partly to ensure that some distance students were surveyed. Although the total number of distance students taking part was small (14 people in total) it was important look at the attitudes of students who are not based at the University and who therefore might not have easy access to print books.

The majority of the distance students were from the Faculty of Education (93%) with the remaining 7% coming from the Faculty of Management. There was an assumption on the

part of the researcher that distance students would have a greater liking for e-books due to their accessibility although, as is explained in question 16, this proved not to be the case.

## 5.2 Question 2: age of respondents

Respondents were asked their age according to six categories starting with '20 and under' and ending with 61+. The majority of the student population fit into the under-50 age range with the largest proportion in the 21 to 30 age range. This was reflected in the breakdown of respondents. 105 respondents answered this question.

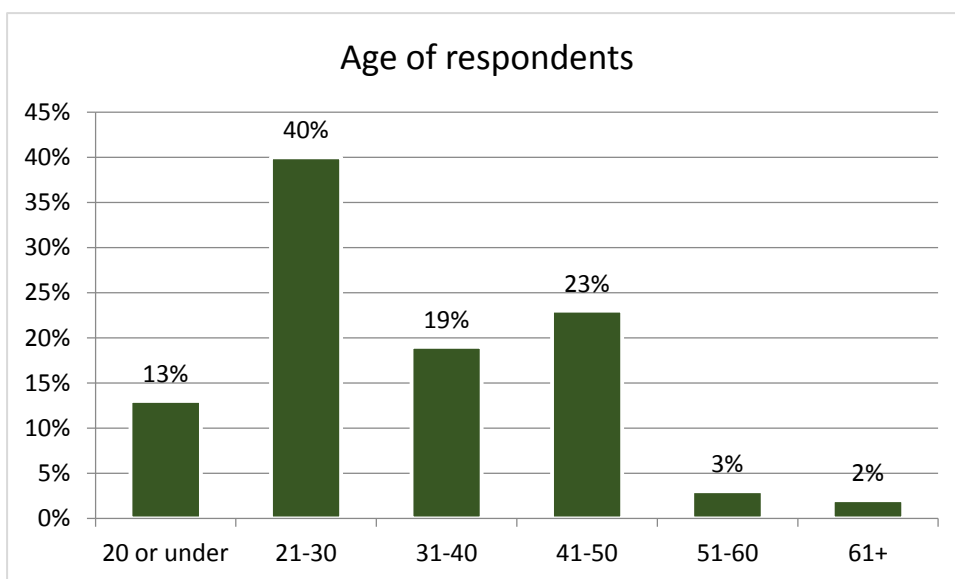


Figure 2. Age of respondents

13% of respondents fell into the 20 and under category, 40% of respondents fell into the 21 to 30 category, 19% were 31 to 40, 23% were 41 to 50 and the remaining 5% of respondents were over 50.

The sample therefore represented a good range of ages. This provided an opportunity to look at various questions from the point of view of the age of respondents to ascertain if there were any key patterns in usage or opinion based on age.

Breakdown of answers by age produced some interesting results, particularly in terms of knowledge and usage of e-books as outlined in the following questions. The relatively small number of respondents over 50 meant that it was not possible to conduct any meaningful analysis with this age range.

### 5.3 Question 3: gender of respondents

Respondents were asked their gender. 105 respondents answered this question.

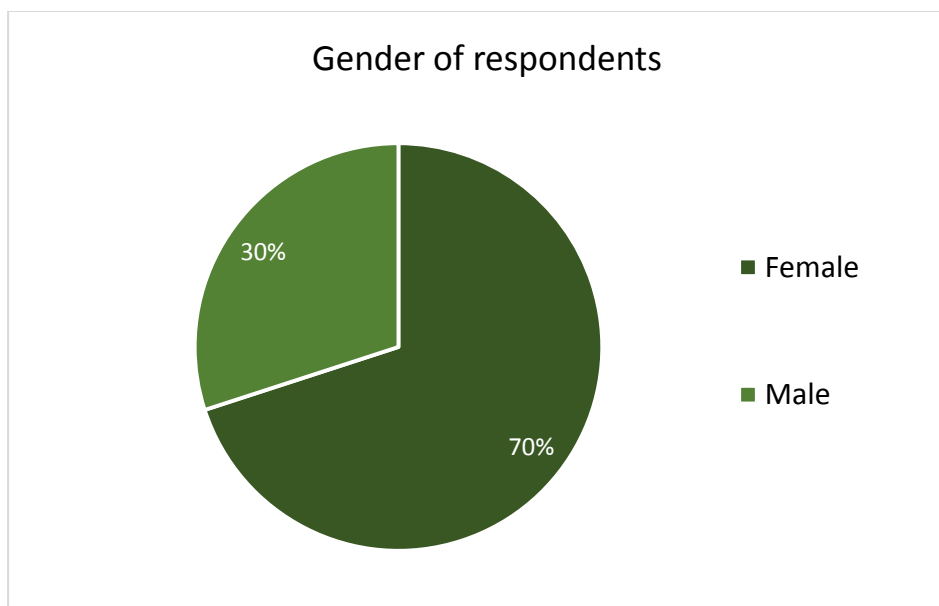


Figure 3. Gender of respondents

70% of respondent were female and 30% male. Women represent a higher proportion of Waikato University students, but even taking this into consideration the sample does have a higher proportion of women than the student population as a whole. One reason for this is that one of the largest faculties represented in the study is Education which has a much higher proportion of women than other faculties. Some studies have suggested that women might also have a higher likelihood to take part in research compared to men (Smith, 2008).

The 20 and under age group had a more even split in terms of gender but later age groups had larger numbers of female respondents. Women tend to have a larger representation among more mature students in the university as a whole. There were substantial gender differences between faculties with 83% of respondents from the Arts and Social Sciences being female, as were 75% of respondents from the Faculty of Education.

There were some notable differences between male and female respondents, particularly with regard to awareness of e-books, and preference for book format, as outlined later in this report.

#### 5.4 Question 4: level of study

Respondents were asked to indicate their level of study from the categories of Undergraduate Year 1, Undergraduate Year 2, Undergraduate Year 3, Postgraduate Masters, Postgraduate Doctoral and Other. Respondents in the 'Other' category made up 10% of the total and this was made up of an equal number of undergraduate students (mostly undergraduate in year 4 of their study) and postgraduates (mostly students undertaking a Postgraduate Diploma). 105 respondents answered this question.

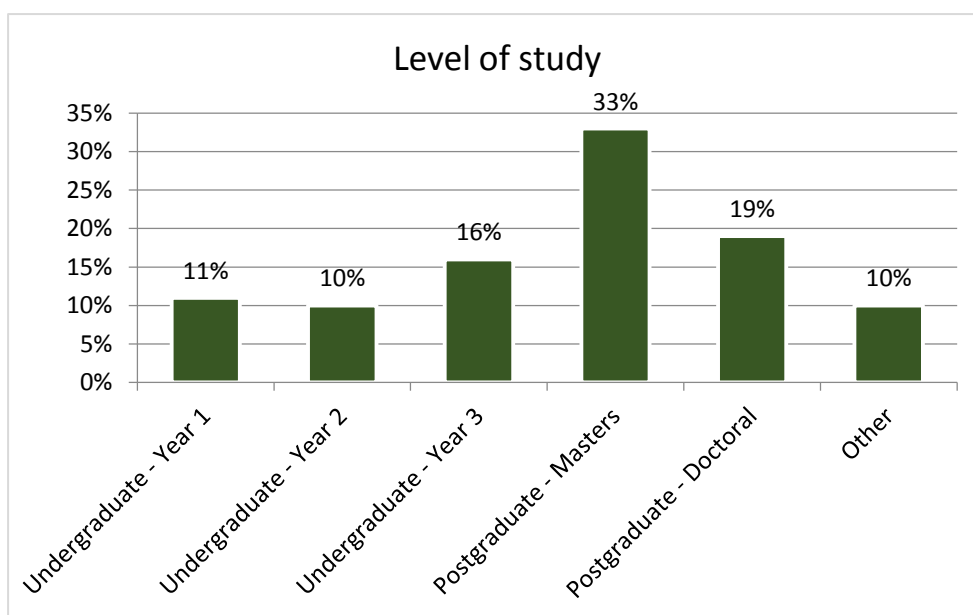


Figure 4. Level of study

Incorporating students in the 'Other' category, undergraduates made up 43% of total respondents with postgraduate students making up the remaining 57%. 33% of respondents were at Master's level. The proportion of postgraduate students is higher than the proportion in the University as a whole. This is largely due to the focus of data collection being centred on the Student Centre where the Library and Postgraduate Centre are both based. This is also likely to have been caused by the Subject Librarian Team (who predominantly deal with postgraduate students) playing a major role in encouraging students to take part in the study.

Open-ended responses on the questionnaires would also suggest that postgraduate students might well have a greater propensity to take part in student research projects due to their own experience of conducting research and an appreciation of the difficulties of

data collection. There is also a possibility that postgraduate students might have had more experience dealing with e-books and might therefore have been more likely to take part in the study. The sample, however, represents a good range of undergraduate and postgraduate students and sufficient numbers to carry out some analysis based on level of study.

### 5.5 Question 5: faculty affiliation

Respondents were asked to specify their faculty of study from a choice of Arts and Social Science, Computing and Mathematical Sciences, Education, Law, Science and Engineering, Management, and Maori and Pacific Development. There was an 'Other' category for any student falling outside the normal faculties although there were no respondents in this category. 105 respondents answered this question.

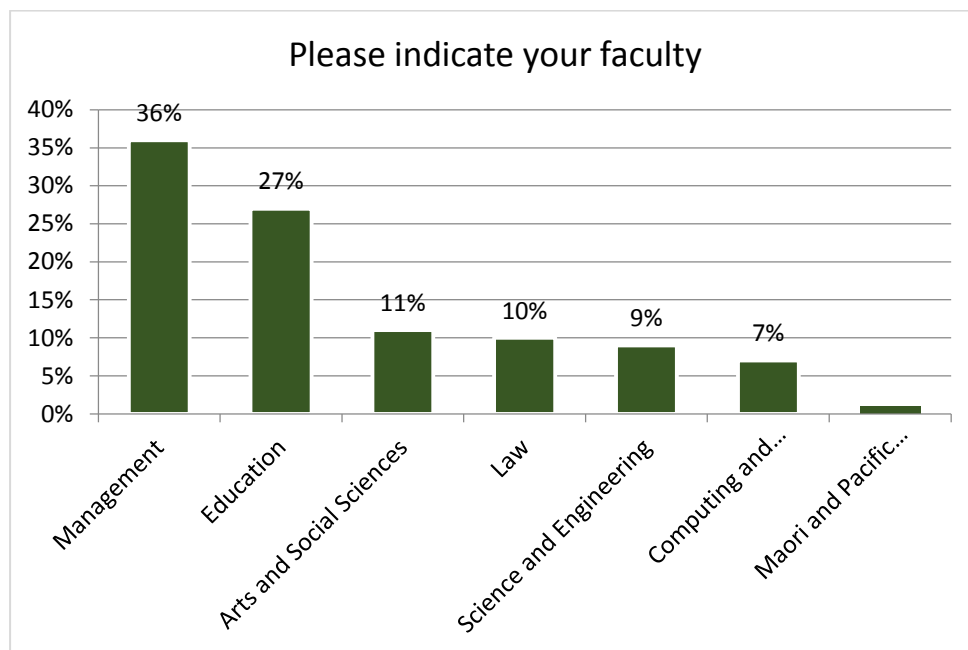


Figure 5. Faculty affiliation

Respondents represented a good range of faculties across the University. Education and Management are the two largest faculties in the institution and also represent the highest percentage of respondents with 27% of respondents coming from the Faculty of Education and 36% coming from the Faculty of Management. Responses from the School of Maori and Pacific Development were not sufficient to permit analysis.

There were distinct differences in responses depending upon the student's faculty of study. This was particularly the case with regard to e-book usage (including where students were located when they accessed e-books), and format preference.

## 5.6 Question 6: using an e-book for recreational reading

Respondents were asked if they had used an e-book for recreational reading. This question was asked to ascertain the difference between student usage of e-books for recreational use and academic study, and also to see if using e-books for recreational use was related to a student's likelihood of using an e-book for academic use. All the remaining 104 respondents answered this question.

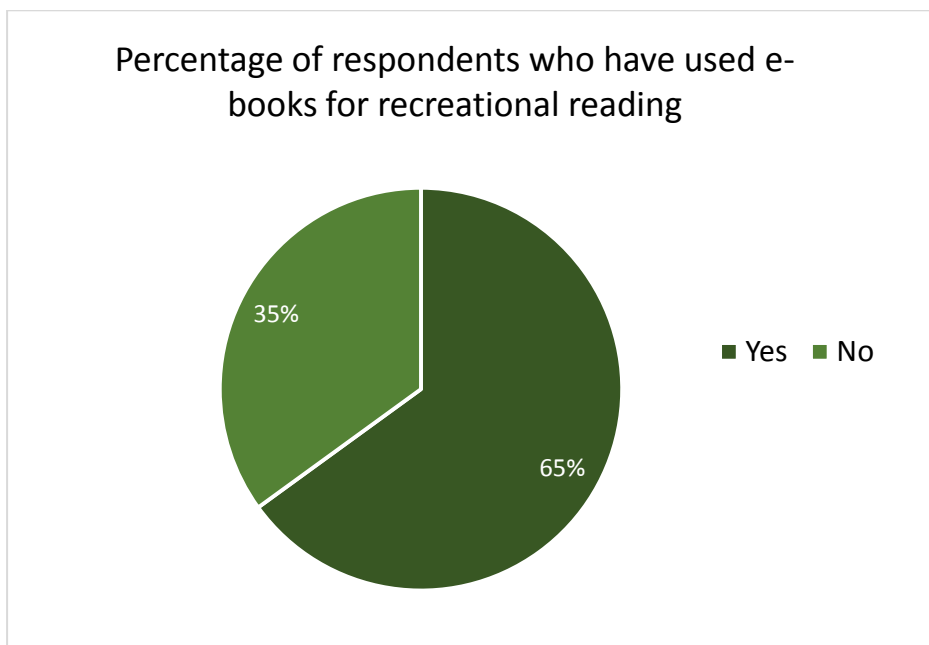


Figure 6. Using an e-book for recreational reading

65% said that they had used an e-book for recreational use with 35% saying that they had not. When the respondents who have used an e-book for recreational reading are compared to respondents who have used an e-book for academic study there are some links between the two. 90% of respondents who had used an e-book for recreational use had also used an e-book for academic study. 83% of respondents who had not used an e-book for recreational use had used an e-book for academic study. Using an e-book for recreational use is likely, therefore, to increase the likelihood that a student will use an e-book for academic use to some degree.

## 5.7 Question 7: usage of e-books for academic study

Respondents were asked if they had used (or attempted to use) an e-book for academic study. This question was designed to gauge how many students had interacted with e-books as a result of their academic study. This would provide information for comparisons with previous studies and also a comparison with respondents who had used e-books for recreational purposes. The 'attempted to use' aspect of the question was designed to include respondents who had attempted to access e-books but had in some way been unsuccessful. 104 respondents answered this question.

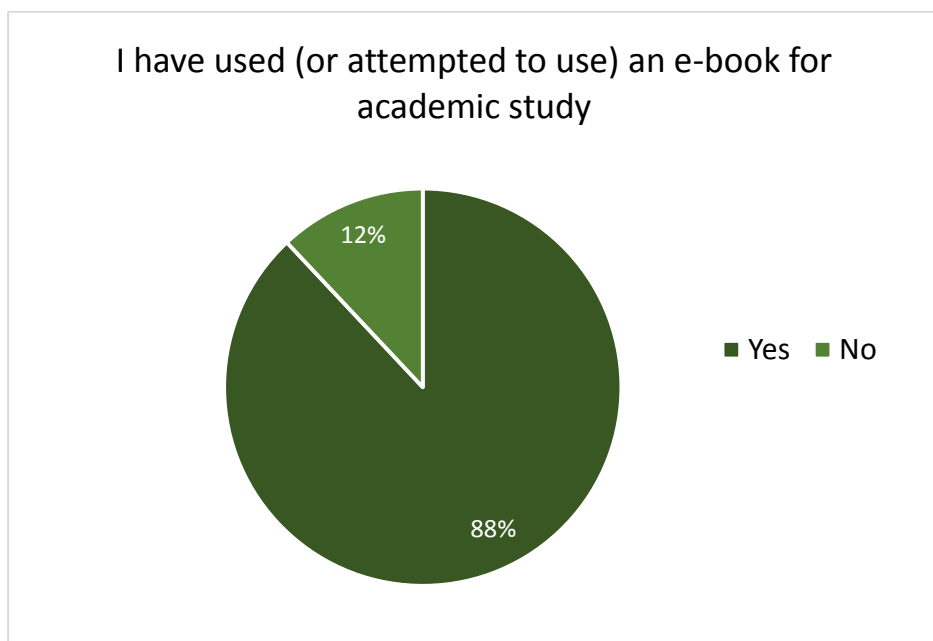


Figure 7. Usage of e-books for academic study

Earlier studies (Gregory, 2006; Abdullah & Gibb, 2008) suggested that e-book usage among students was relatively low at around 40% of students. Some later studies, such as Ahmad and Brogan (2012) and de Oliveira (2012), found that usage was even lower.

88% of respondents in this study indicated that they had used an e-book for academic study. 12% responded that they had not. It is likely that the sample for this study favours library users due to the method of data collection, but even taking this into account the level of e-book usage for academic study is far higher than was recorded in older studies. The number of respondents using e-books for academic study is higher than those using e-books for recreational reading.

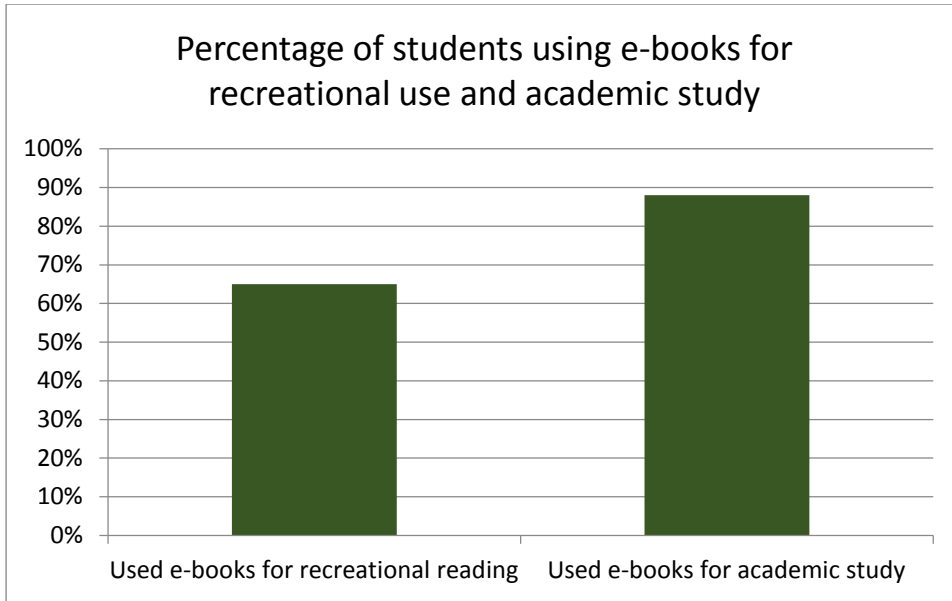


Figure 8. Recreational use versus academic study

Higher levels of usage can partly be explained by the fact that students are more likely to come into contact with e-books as part of their academic study, and also as a result of the huge increase in the number of e-books provided by academic libraries in recent years.

E-book usage for academic study does change depending on the age of respondents with 64% of respondents 20 or under using e-books as part of their academic study, rising to 100% of respondents over 50 years of age.

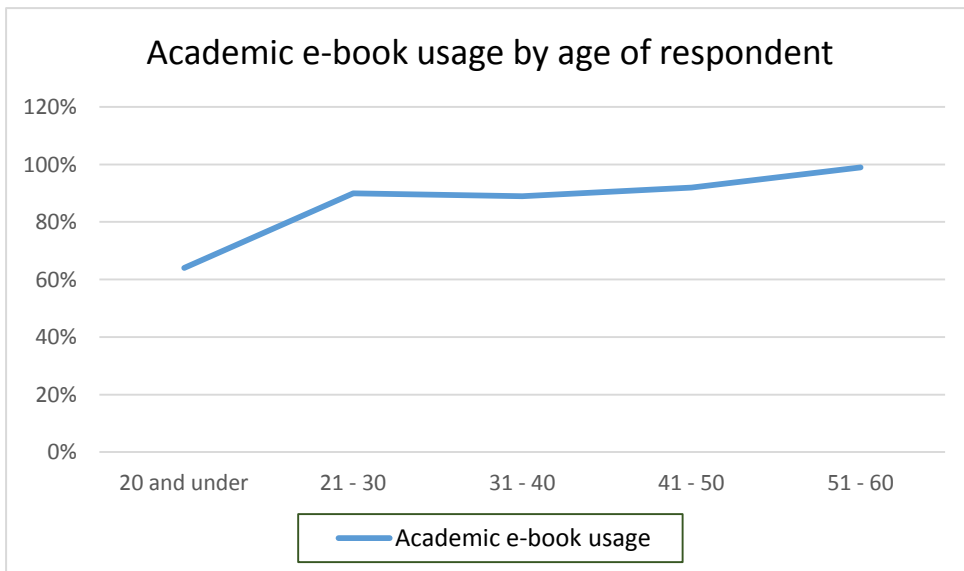


Figure 9. Academic e-book usage by age of respondent



There were some differences in academic e-book usage based on faculty of study. In Computing and Mathematical Sciences, for instance, 100% of respondents had used e-books for academic study whereas in other faculties such as Education (79%), Science and Engineering (78%), and Law (70%) the figure was lower. Qualitative responses in this study suggest that the availability of e-books in particular subject areas is a major factor. Computing, for instance, has far more relevant e-books than Law, where there remains a high dependence on printed material.

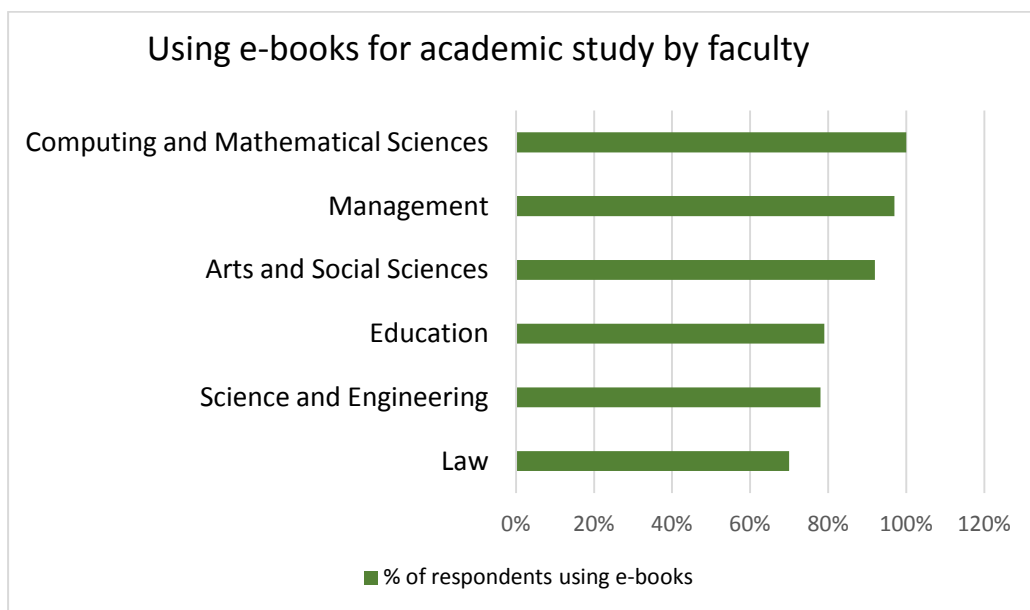


Figure 10. Use of e-books for academic study by faculty

### 5.8 Question 8: accessing e-books for academic study

Respondents who had used an e-book for academic study were asked how they accessed academic e-books from the options of general Internet searching such as Google, Google Scholar, the University Library, a publisher’s website, or from another source. They could select all that apply. 91 respondents answered this question.

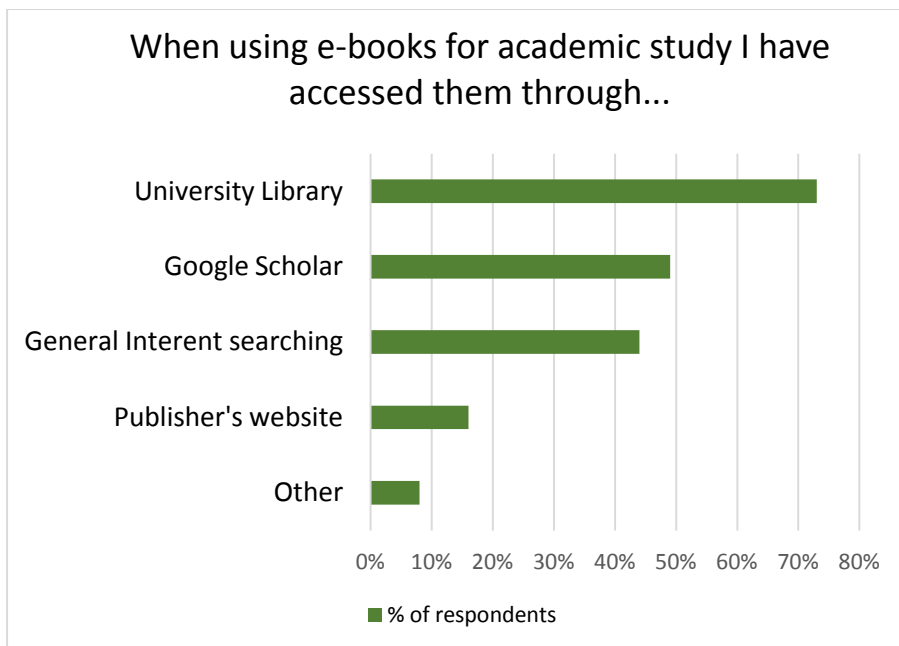


Figure 11. How e-books are accessed

Previous studies such as Rowlands et al. (2007) and Corlett-Rivera (2014) suggested that students tend to access e-books through general channels such as Google and Google Scholar with less than 50% using library channels. This study suggests that this is not the case at the University of Waikato where over 70% accessed e-books through the Library.

Between 40 and 50% also accessed e-books through general Internet searching or through Google Scholar. Direct access through the publisher website was minimal (less than 20%). Other channels included course material provided by lecturers, Amazon, Kindle, ProQuest, and free e-books provided by a research organisation.

The younger the student, the more likely they are to use general Internet searching such as Google. The use of Google Scholar and the University Library seems to increase as students get older. 78% of respondents in the 20 and under category accessed e-books through general Internet searching such as Google. For later age groups this figure falls below 50%.

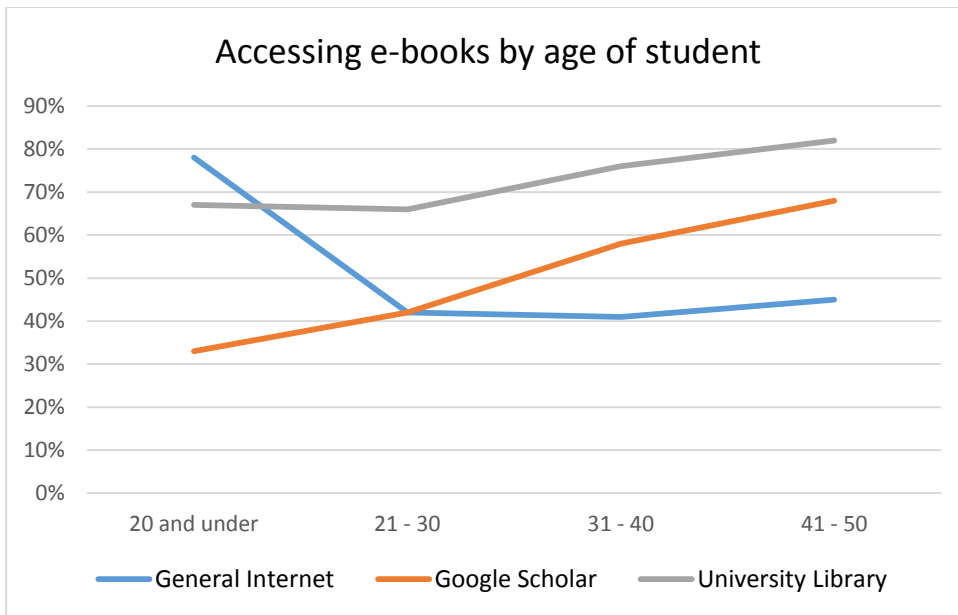


Figure 12. Accessing e-books by age of student

There was a marked change in the way undergraduates accessed e-books through the first years of study. 73% of Year 1 undergraduates accessed e-books from general Internet searching such as Google. By the second year of study this figure dropped to 33% and by the third year of study the percentage of respondents using general Internet searching to access e-books was down to 27%. 53% of Master's students used this method of accessing e-books. This is likely to be as a result in the number of new and returning students undertaking study at Master's level.

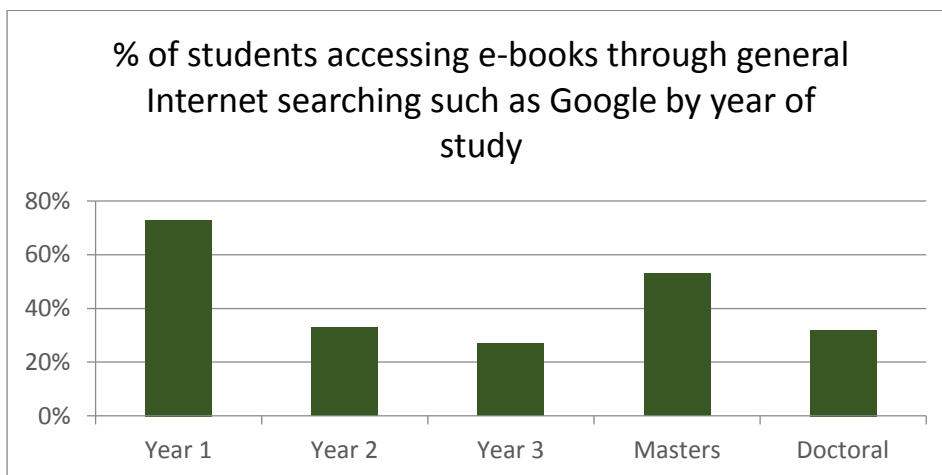


Figure 13. Accessing e-books using general Internet searching by year of study

Students in the Arts and Social Sciences, Education, and Management faculties have a greater likelihood to access e-books through the University Library.

## 5.9 Question 9: awareness that the Library provides access to e-books

Respondents who had used an e-book for academic study were asked if they were aware that the University of Waikato Library provides access to e-books. A lack of awareness of e-books provided by libraries has been shown in previous studies to be a major factor (Shelbourne, 2009; Ashcroft, 2011). 91 respondents answered this question.

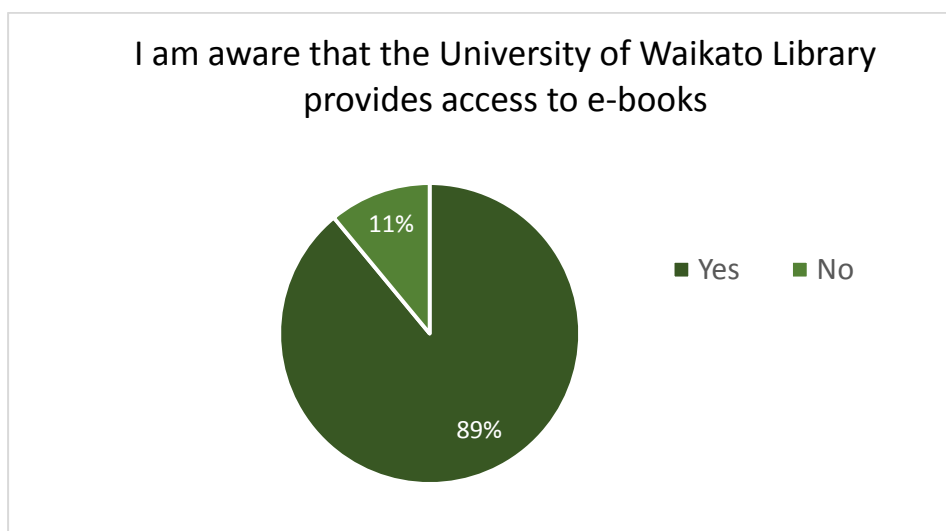


Figure 14. Awareness of University of Waikato e-books

89% were aware that the University Library provided access to e-books. This is a higher percentage than demonstrated in previous studies and suggests that awareness of the availability of e-books has increased considerably among the student population in recent years.

Women seemed slightly more aware than men with 90% of women being aware as opposed to 85% of men. There was a general increase in awareness as respondents got older from 72% of respondents 20 and under rising to 100% of respondents aged over 50. Awareness was relatively consistent across faculties although there was slightly more awareness among the Education and Arts and Social Sciences students.

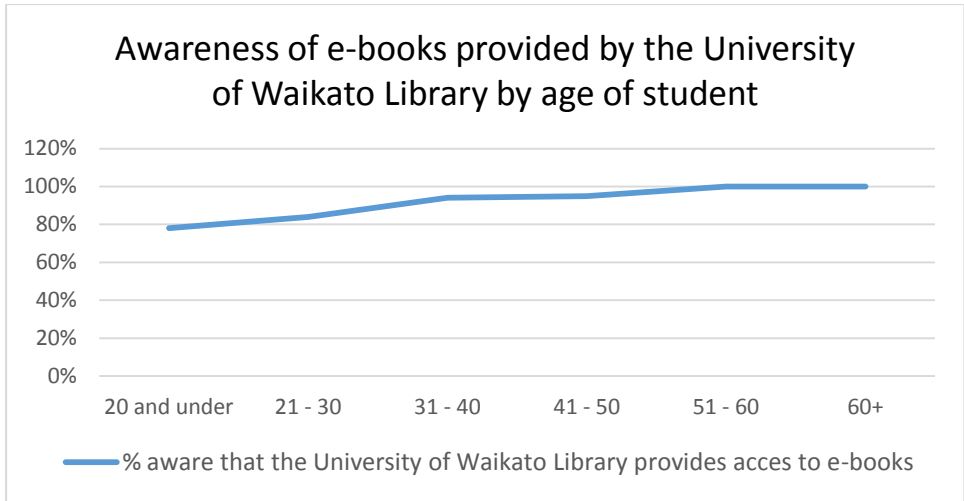


Figure 15. Awareness of e-books provided by the University of Waikato Library by age

### 5.10 Question 10: frequency of use

Respondents who were aware of e-books provided by the University of Waikato Library were asked how frequently they used them from a choice of never, once, a few times, and often. 81 respondents answered this question.

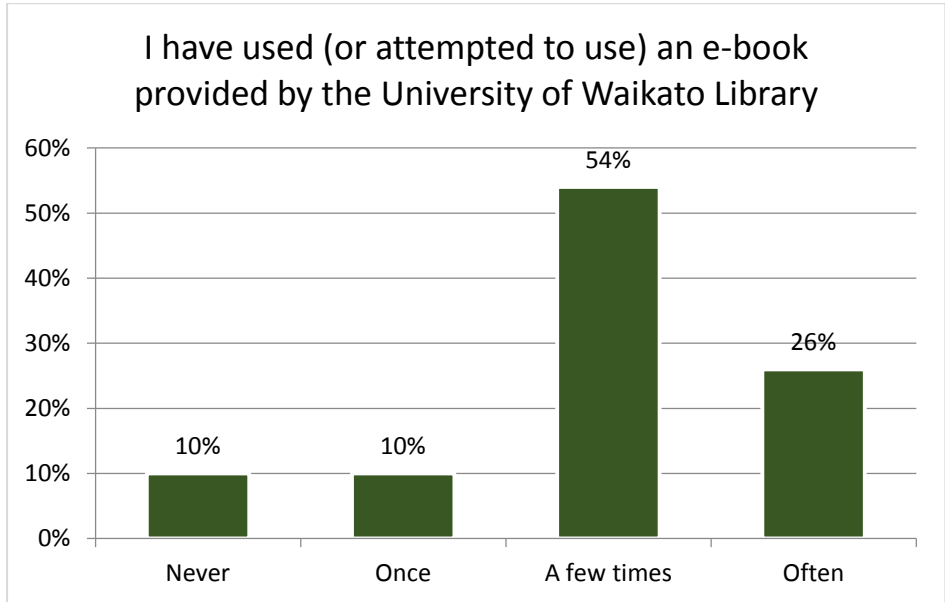


Figure 16. Frequency of use

10% of respondents said that they had never accessed an e-book provided by the University of Waikato Library. Open ended responses later in the questionnaire suggest that some of this number might well have actually accessed an e-book provided by the Library without

realising it. Respondents who answered 'Never' were directed towards the final question in the survey.

10% of respondents stated that they had accessed e-books provided by the University Library on one occasion. By far the greatest proportion stated that they had accessed e-books provided by the University Library a few times (54% of respondents). 26% of respondents had often accessed e-books provided by the Library. 80% of respondents overall therefore stated that they used Library e-books on a number of occasions suggesting that e-books provided by Library are relatively well-used by those who are aware of their existence.

Frequency of usage was relatively consistent across gender, age, level of study and faculty although 43% of those in the 20 or under category had used e-books only once suggesting limited usage in the early stages of tertiary study.

The largest percentage of respondents who had never used an e-book for academic study provided by the Library were from the Arts and Social Sciences Faculty and 50% of respondents from the Faculty of Computing and Mathematical Sciences had used a Library e-book just once. This might be due to criticisms of the number and quality of computing and maths e-books expressed in open-ended questions.

### **5.11 Question 11: initial discovery that the Library provided access to e-books**

Respondents who had used an e-book provided by the University of Waikato were asked how they first discovered that the University provided access to e-books with options ranging from a selection of Library channels to publishers' websites and course material provided by a lecturer. There was also an 'Other' option. Respondents could choose single or multiple options. 73 respondents answered this question.

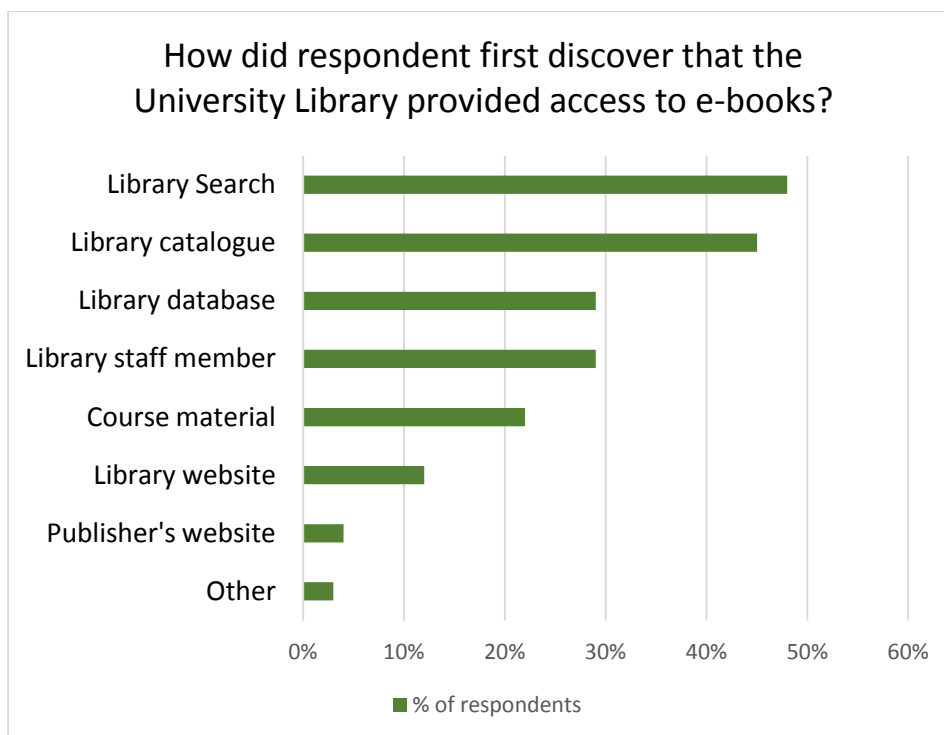


Figure 17. Initial discovery that the University Library provided access to e-books

Library sources dominated responses to this question with Library Search and the Library catalogue both cited on nearly 50% of instances. Library databases and Library staff member were mentioned on 29% of occasions, and the Library website was the source on 12% of occasions.

Course material was the other main way respondents initially found out about e-books provided by the Library with 22% of respondents citing this source. Publishers' websites were cited by 4% of respondents and 3% mentioned other ways, all of which related to hearing from friends and colleagues.

The 48% that cited Library Search compares to 7% of academic staff using this tool in Lamb's (2012) study at the same institution. Part of this discrepancy is due to the fact that Library Search was relatively new in 2012, but it is also likely that academic staff tend to use the catalogue to search for books whereas students use Library Search more.

75% of respondents from the Arts and Social Sciences Faculty cited the Library catalogue as an initial source of information whereas 63% of Education students cited Library Search. Other open-ended responses suggest that Arts students tend to use books (as opposed to articles and online sources) more than other subject areas. They might therefore be more

likely to search using the catalogue rather than Library Search. 60 % of Science and Engineering students highlighted the role of a Library staff member. Qualitative responses suggest, for a number of respondents, this was the Subject Librarian for that faculty.

### 5.12 Question 12: locating e-books provided by the University of Waikato Library

Respondents who had used e-books provided by the University of Waikato were asked how they primarily located these e-books from a choice of Library catalogue, Library Search, Publisher's website, Library database, course material supplied by the lecturer, or other. Respondents could choose single or multiple options. 73 respondents answered this question.

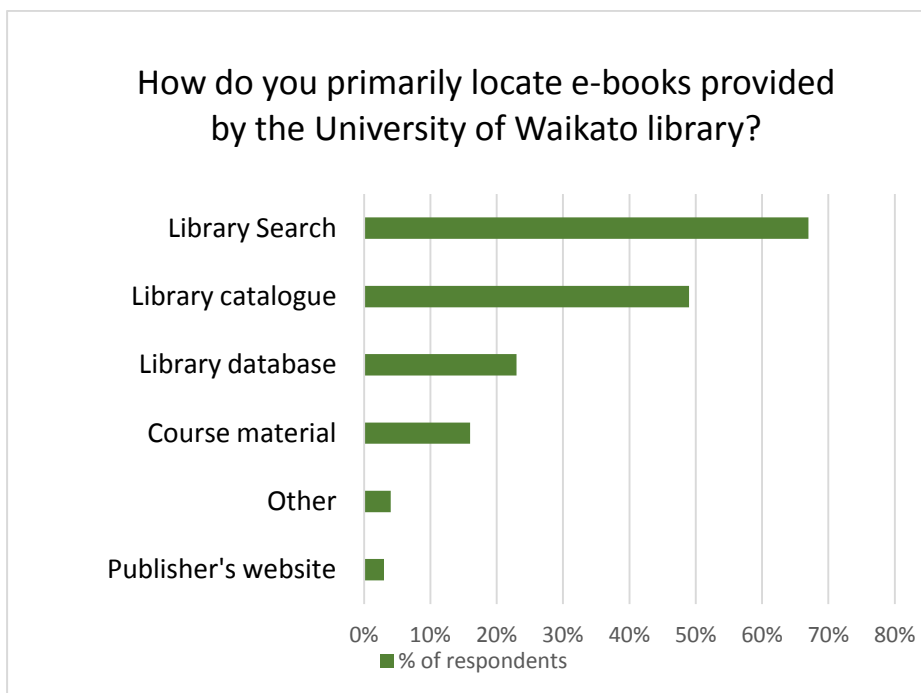


Figure 18. How e-books provided by the University Library are located

67% of respondents used Library Search demonstrating that this tool is the primary one used by students to find e-books. 49% mentioned the Library catalogue, 23% cited a Library database, 16% highlighted course material, 3% located e-books primarily through publisher websites and 4% choose other with answers divided between Google Scholar and Library staff.



There were some notable differences between faculties. 75% of Arts and Social Science students primarily located e-books by the using the Library catalogue whereas only 32% of Education students did so. 74% of Education students cited Library Search. Again, this discrepancy is likely to be due to Arts and Social Science students' greater use of books for study.

Use of Library Search increases with age with 57% of respondents in the 20 and under category primarily locating e-books using Library Search rising to 76% for respondents in the 41 to 50 age range. Younger students are much more likely to locate e-books as a result of course material provided by their lecturer. 29% of students 20 and under and 38% of first year undergraduates cited this as the primary source of e-books.

There were some marked gender differences with 71% of women citing Library Search as the primary source of locating e-books while 57% of men cited this source. Men seemed much more likely to cite course material provided by their lecturer as the primary source (24% compared to 13% of women).

### 5.13 Question 13: e-book reading habits

Respondents who had used academic e-books provided by the University were asked if they usually read the majority of the book, individual chapters of the book, or selected pages or sections of the book. 73 respondents answered this question.

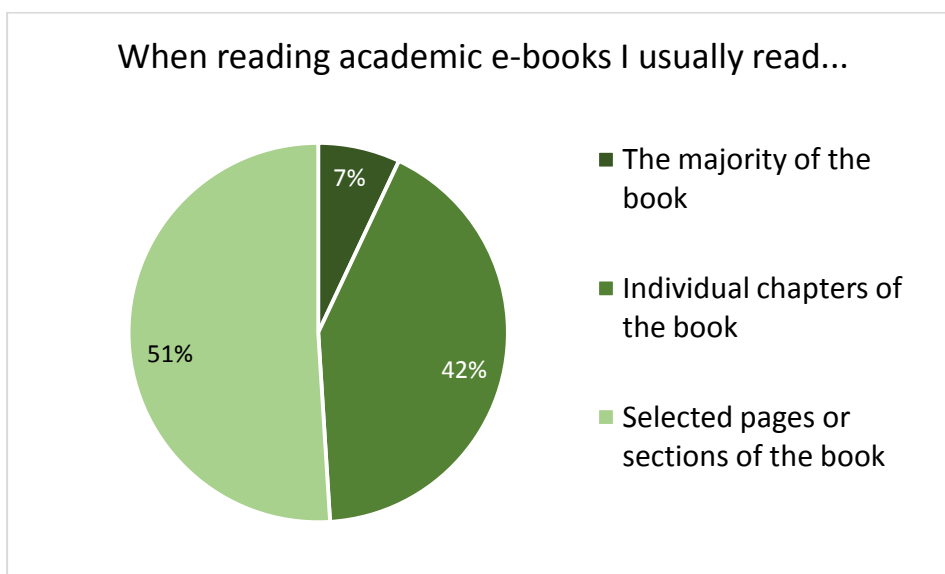


Figure 19. E-book reading habits

Previous studies, such as that done by Wilkinson in 2010 (as cited in Minčić-Obradović, 2011, p. 189) suggest that students tend to skim electronic books rather than reading chapters or whole books. Lamb's (2012) study of University of Waikato academics found similar results where 58% read excerpts and only 11% tended to read the majority of the book (p. 25).

Results from this study suggest very similar patterns to previous research. 57% of students stated that they usually read selected pages or sections and only 7% of students usually read the majority of the book. This could easily reflect the nature of academic study where selecting excerpts from books and articles is usually the norm, but this does have implications for libraries in terms of the platforms used for e-book provision and the nature of e-book buying. If students are merely dipping into books for a current course would it be better for libraries pay for access rather than buy whole e-books?

There were some differences by age where younger students (30 and under) tended to use selected pages or sections, whereas students over 30 had more of a tendency to read whole chapters. Gender seems a factor in this area. 67% of men usually only read selected pages or sections with only 19% saying they usually read individual chapters, while for women 44% usually read selected pages or sections and 52% tended to read individual chapters.

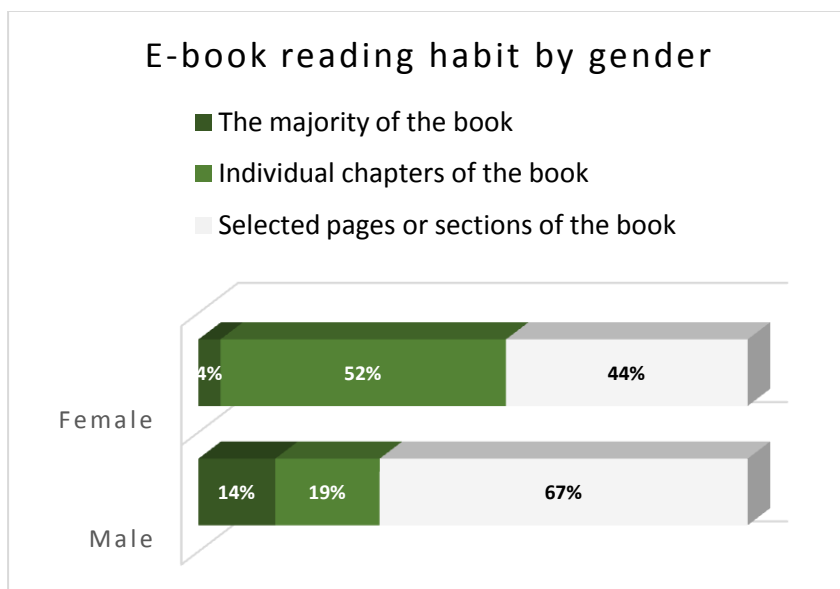


Figure 20. E-book reading habit by gender

There were some differences based on faculty of study which might be expected from the different general nature of study in different faculties. Students in the Arts and Social

Sciences had a greater likelihood to read individual chapters of an e-book (63% of students) while none of the Science and Engineering students tended to read individual chapters. 80% of students in this faculty usually read selected pages or sections of the book.

### 5.14 Question 14: reading and downloading habits when using academic e-books

Users were asked how they preferred to read academic e-books from a choice of reading it from the screen, downloading it and then reading it from the screen, printing the relevant section and then using the printed version, or by using a mobile device. Respondents could only choose one option and 73 answered the question.

Ease of reading from a screen has been highlighted as a major issue for students in previous studies for such reasons as eye strain (Gregory, 2006, p. 271) or general ease of reading (Rowlands, et al., 2007, p. 500). Anecdotal evidence suggests students often print electronic articles when undertaking academic study. This question was designed to assess how e-books are read and to what degree they are downloaded or printed.

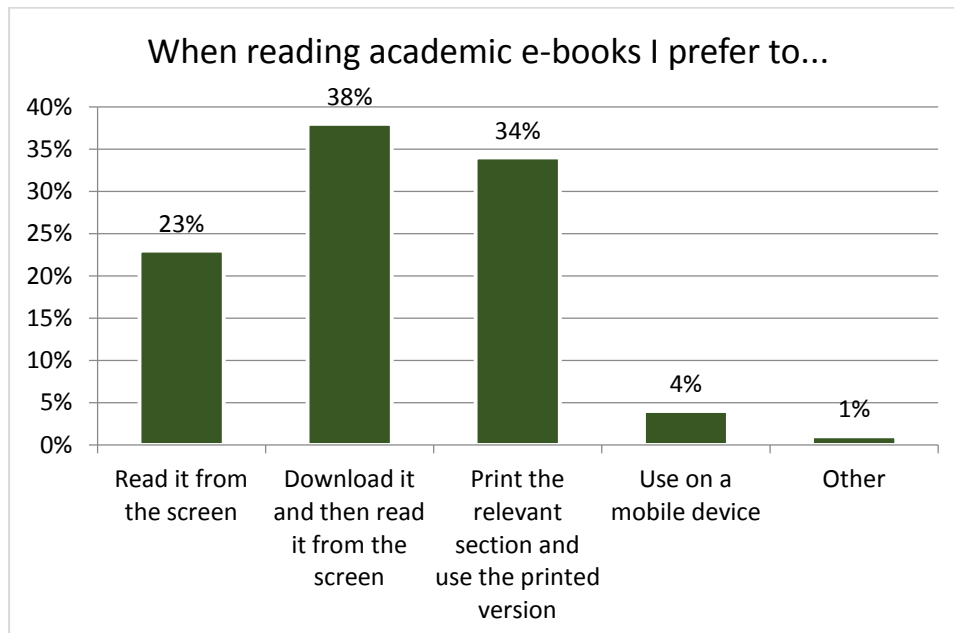


Figure 21. Reading and downloading habits when using e-books

23% of respondents would prefer to read academic e-books from the screen, 38% would download the e-book and then read it from the screen, 34% would prefer to print the relevant section, and 4% would prefer to use a mobile device. There was one person in the

'Other' category who stated that when reading academic e-books "I would prefer to be reading a print book."

Younger students tend to download e-books whereas older students are much more likely to print off a relevant section and use the printed version. 48% of male respondents said they would prefer to print the relevant section compared to 29% of female respondents. Female respondents were far more likely to read it from the screen (27% of women) than men (14% of men). The fact that 34% of respondents prefer to print off the relevant section seems surprisingly high suggesting that for many, although they might be prepared to access the material through electronic means, when it comes to actually using the material for study they still want a hard copy version of the material.

37% download e-books and then read them from the screen, but only 4% said that they preferred to use a mobile device. Qualitative responses later in the survey suggest that students still predominantly use desk top computers and lap tops to undertake study. Finding relevant material might be carried out on a mobile device but, when it comes to using material for research, students prefer larger devices and screens, or the print version.

### **5.15 Question 15: where students are located when they accessed e-books**

Users were asked where they were located when they accessed e-books provided by the University Library. Knowing to what degree students access e-books from home has implications for how the University Library provides assistance and guidance to e-book users. Respondents could only choose one option. 73 answered this question.

38% accessed them mainly from home, 26% accessed them mainly from university, and 36% accessed them equally from home and university. The fact that so many students access e-books from home has serious implications for the University Library in providing support for students accessing and using academic e-books. This stresses the importance of the remote service that the University Library provides to assist students through online or phone channels.

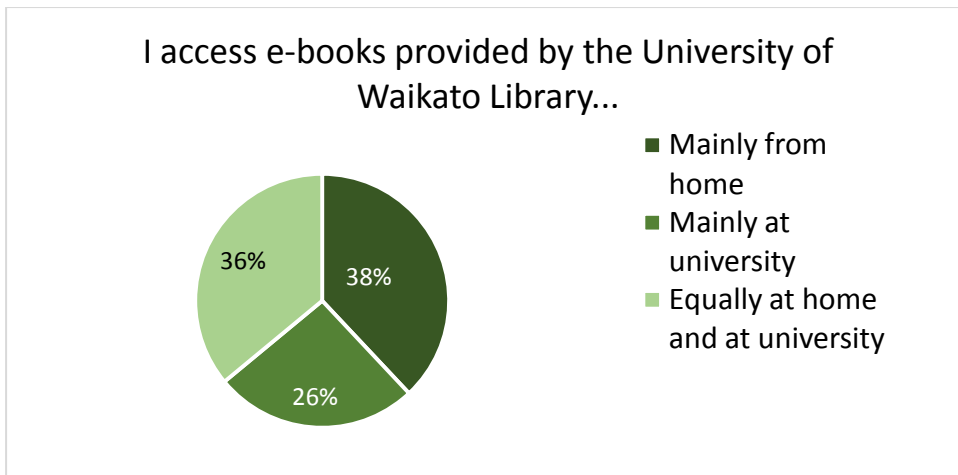


Figure 22. Location of e-books users

Younger students tend to access e-books from university (43% of respondents aged twenty and under) while older students tend to access them from home (71% of 41 – 50 year olds). Figures were remarkably similar for different gender types although different faculties demonstrated different results for this question. In the Faculty of Education 74% of students accessed e-books mainly from home and none of these students accessed them mainly from university, whereas 80% of Science and Engineering students accessed them mainly at university with none of the respondents from this faculty accessing them from home. Science and Engineering students generally have a greater need to be in the university due to the practical nature of much of their study.

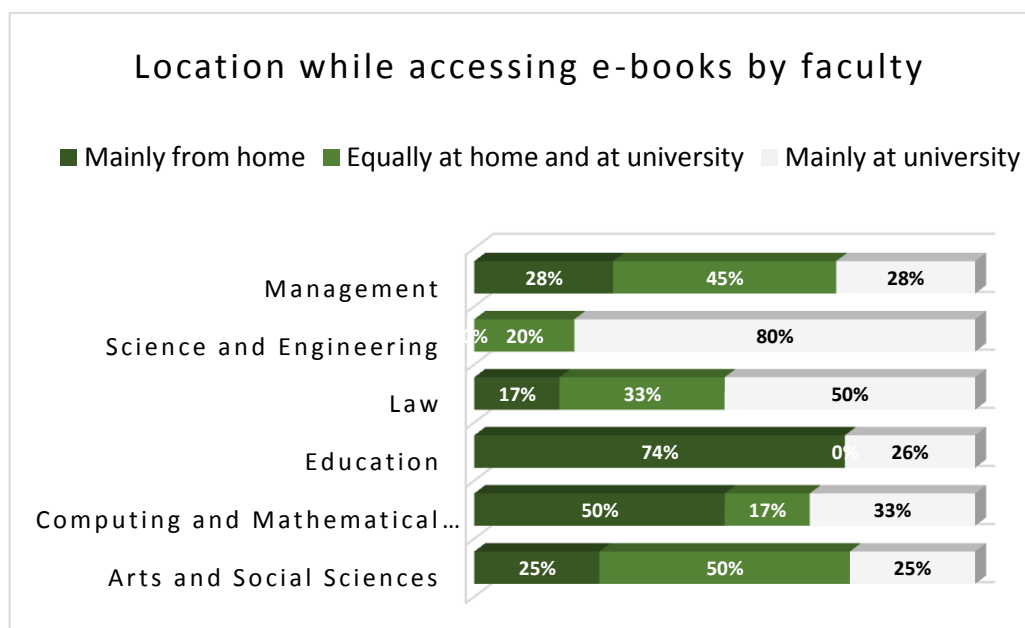


Figure 23. Location while accessing e-books by faculty

## 5.16 Question 16: attitudes to e-books available at the University of Waikato

Respondents who had used an e-book provided by the University Library were provided with a series of statements about e-book provision at the University and asked to respond using a range of possible answers ranging from strongly agree to strongly disagree.

This question was designed to achieve a greater depth of understanding about student attitudes to e-book provision and also attitudes towards the types of purchasing choices that libraries have to make. 73 respondents answered this question.

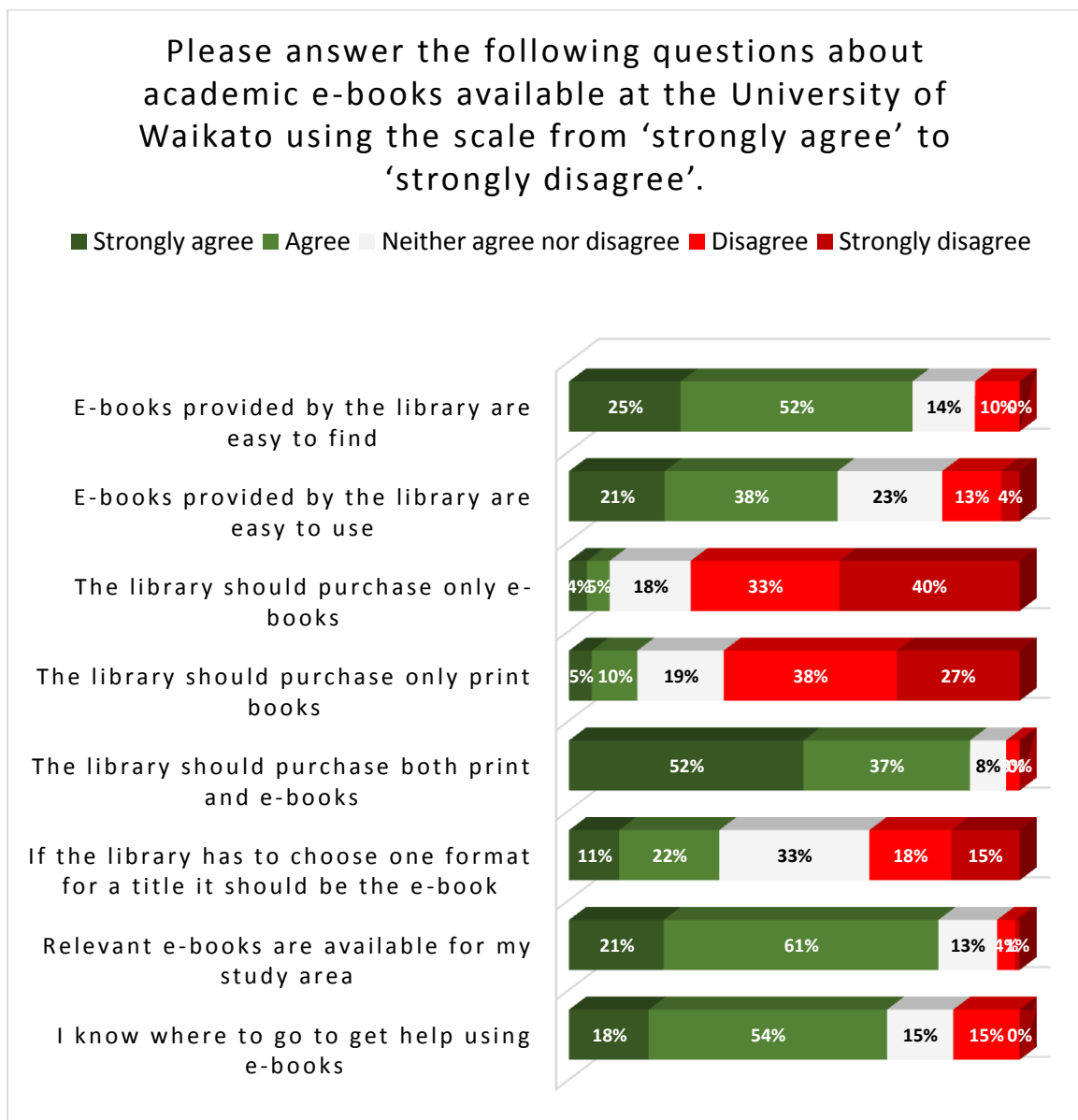


Figure 24. Attitudes to e-books available at the University of Waikato

### 5.16.1 Are e-books easy to find?

Earlier studies have suggested that students often have difficulty finding e-books (Buczynski, 2010). This study suggests that this is not the case at the University of Waikato. A total of 77% of respondents agreed or strongly agreed that e-books provided by the Library were easy to find and only 10 % disagreed with this statement.

Women were more likely to strongly agree with this statement than men. First year undergraduates had lower numbers of respondents agreeing with this statement than second or third year undergraduates. 75% of first undergraduates agreed or strongly agreed with the statement while 89% of second year undergraduates did so.

Agreement with this statement among postgraduate students was similar to first year undergraduates suggesting that students who are new to the University take time to learn how to find resources. The Library might therefore be best to focus support for e-book provision on students newly arrived at the University, whether first year undergraduates or postgraduates student who have not previously studied at the institution.

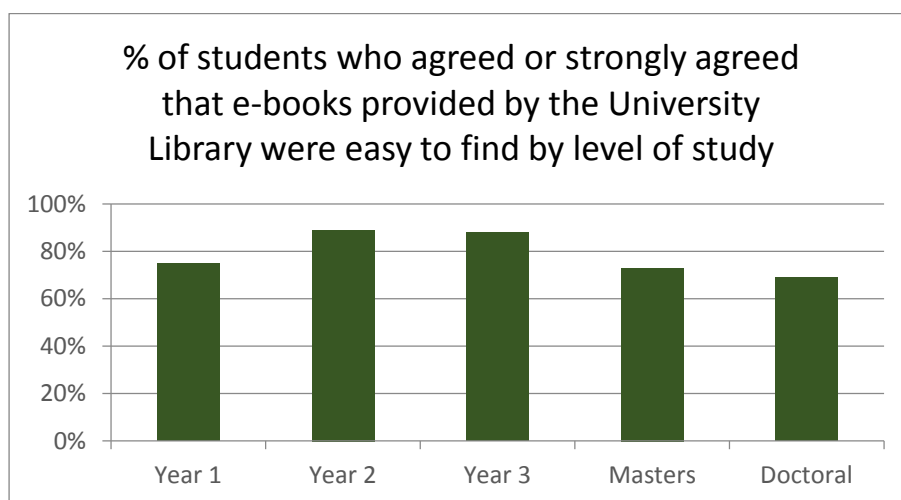


Figure 25. Discoverability by level of study

Only 50 % of law students agreed with this statement reflecting the lack of relevant e-books in this subject area.

### 5.16.2 Are e-books easy to use?

60% of respondents agreed or strongly agreed that e-books provided by the Library were easy to use suggesting that, although students generally had no trouble finding e-books they

were not always easy to use. Reasons for this, highlighted in later questions, include issues of functionality and navigation, but particularly difficulties with reading from the screen. As might be expected due to increased levels of digital literacy among younger people, to what degree students find e-books easy to use was highly dependent upon age.

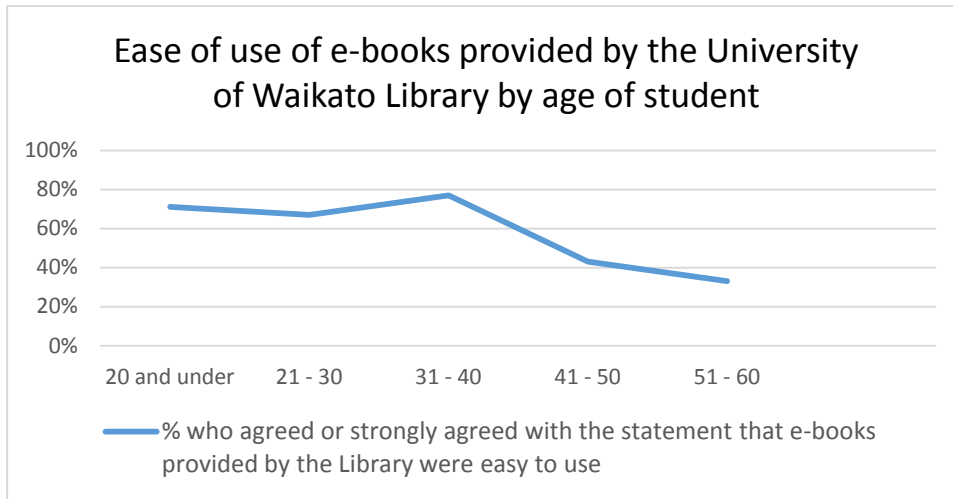


Figure 26. Ease of use by age group

There were some notable differences between faculties with 80% of Science and Engineering students agreeing or strongly agreeing with the statement while only 50% of Arts and Social Sciences did so. Although this is likely to be as a result of traditional arts/science differences in computer use and technical ability it is interesting to note that only 33% of Computing and Mathematical students agreed with the statement. Comments made by respondents in later questions in this study suggest that there are significant issues with e-books in the Mathematical Sciences.

### 5.16.3 Library purchasing priorities

Respondents were asked for their opinion on possible purchasing priorities. Students strongly disagreed with the statements that the Library should purchase only e-books and that the Library should purchase only print books. Female respondents felt particularly strongly about only purchasing e-books with 46% strongly disagreeing with this statement compared to 24% of male respondents. 89% of respondents agreed or strongly agreed that the Library should purchase both print and e-books. The only group who showed any interest in an e-book-only purchasing were Science and Engineering students where 20% agreed that the Library should only purchase e-books.



Respondents were asked if they agreed with the statement that if the Library had to choose one format for a title it should purchase the e-book. Only 33% of respondents agreed or strongly agreed with this statement although 50% of year one undergraduates and 60% of Science and Engineering students agreed. This response might have implications for the Libraries that have a purchasing preference for e-books over print.

#### 5.16.4 Relevant e-books for subject areas

82% of respondents agreed or strongly agreed that relevant e-books were available for their study area. Only 5% disagreed or strongly disagreed. Previous studies such as Corlett-Rivera (2014) have suggested that the lack of availability of key textbooks is a major concern for students undertaking tertiary study although this study suggests that, overall, students believe relevant text books are available for their subject areas.

In some faculties, there were high levels of agreement with this statement. 93% of Management students thought that there were relevant e-books for their subject area. There are, however, some faculties where relevant e-books are less readily available, notably in Law, Science and Engineering, and in Computing and Mathematical Sciences.

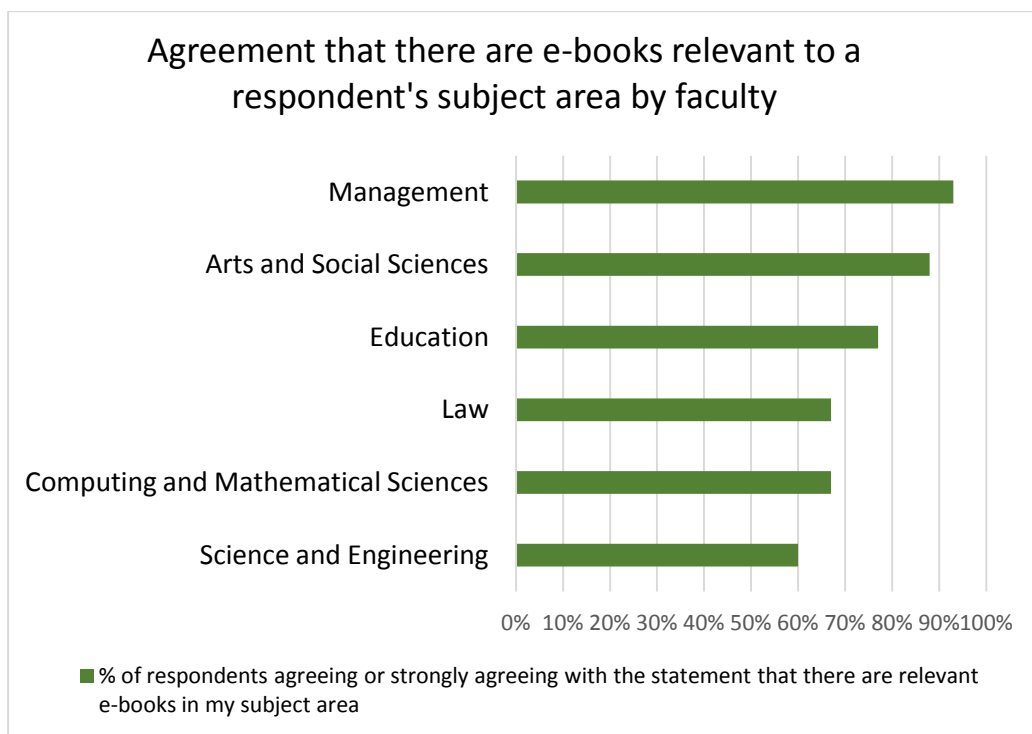


Figure 27. E-books relevant to subject area available by faculty

### 5.16.5 Knowledge of support for using e-books

72% of respondents either agreed or strongly agreed with the statement that they knew where to go to get help using e-books. Women had a greater tendency to disagree with this statement with 15% disagreeing, compared to 5% of men. 23% of doctoral students disagreed with this statement suggesting again that doctoral students, who are often new to the University, need targeting with information about Library services.

### 5.17 Question 17: student preference regarding book format

Respondents, who had used an e-book provided by the University Library, were given the choice of a preference for print books, a preference for e-books, or an option for having no preference either way when it comes to using books for academic study. They could choose one option. 73 respondents answered this question.

Previous studies have consistently suggested that, despite the many benefits associated with e-books, students have a strong preference for traditional print books when it comes to academic study (Gregory, 2006; Rowlands et al., 2007; Shepperd et al., 2008; De Oliveira, 2012; Walton, 2014).

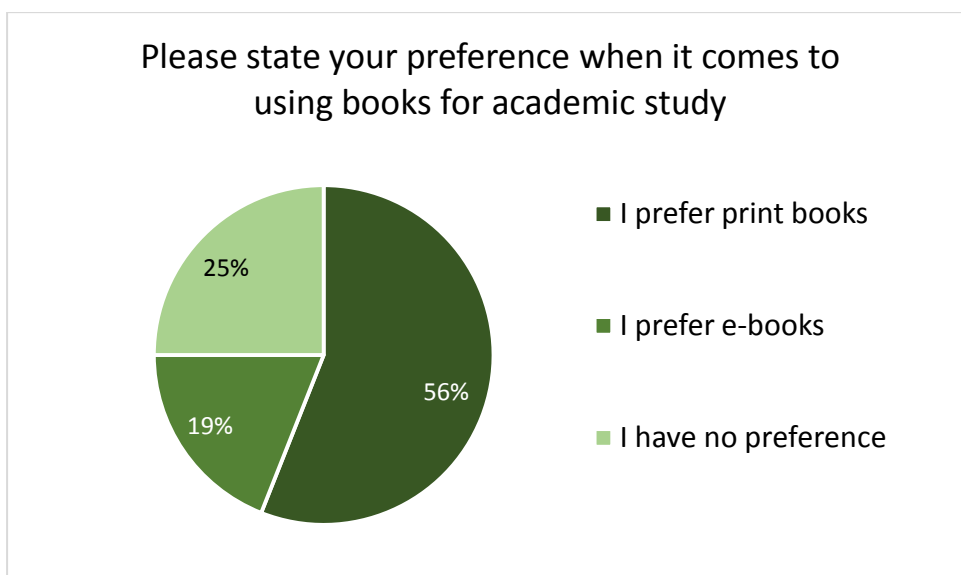


Figure 28. Student preference regarding book format

Compared to previous research, this study has found that students seem to have greater awareness of e-books, use e-books more and much higher levels of satisfaction with the

ease of finding and using e-books. It would be reasonable to assume that this study might show increased levels of student preference of e-book format. This is not the case, however, as respondents expressed preference for traditional print books over e-books. 56% of respondents preferred print books, 19% preferred e-books while 25% have no preference.

Preference for print books was even greater for distance students, who it might be expected to appreciate the accessibility of e-books, with 64% of distance students expressing a preference for print. Older students generally prefer print books with preference for print changing from 29% of the 20 and under age range, increasing to 59% of students aged 21 to 30, and then 76% of students aged 41 - 50.

Preference for print tends to increase with level of study, particularly with undergraduates. This might back up comments made in later open-ended questions about the nature of academic study and the way e-books seem less suited to in-depth research. Younger undergraduates might have less of a preference for print material as they have grown up over recent years using digital resources to a larger degree than students who started their study three years ago.

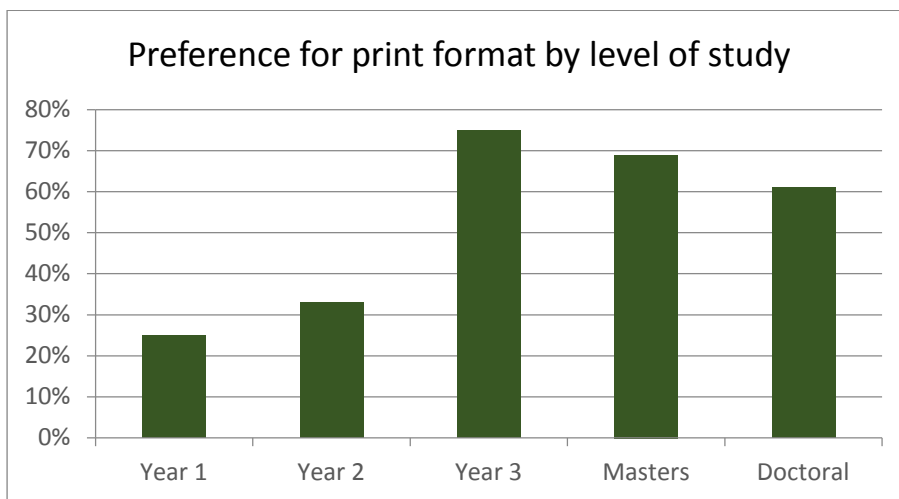


Figure 29. Preference for print format by level of study

Less than 10% of male respondents expressed a preference for e-books while 23% of female respondents preferred e-books. There were also notable differences between faculties with 75% of Arts and Social Science students preferring print while only 20% of Science and Engineering students had the same preference.

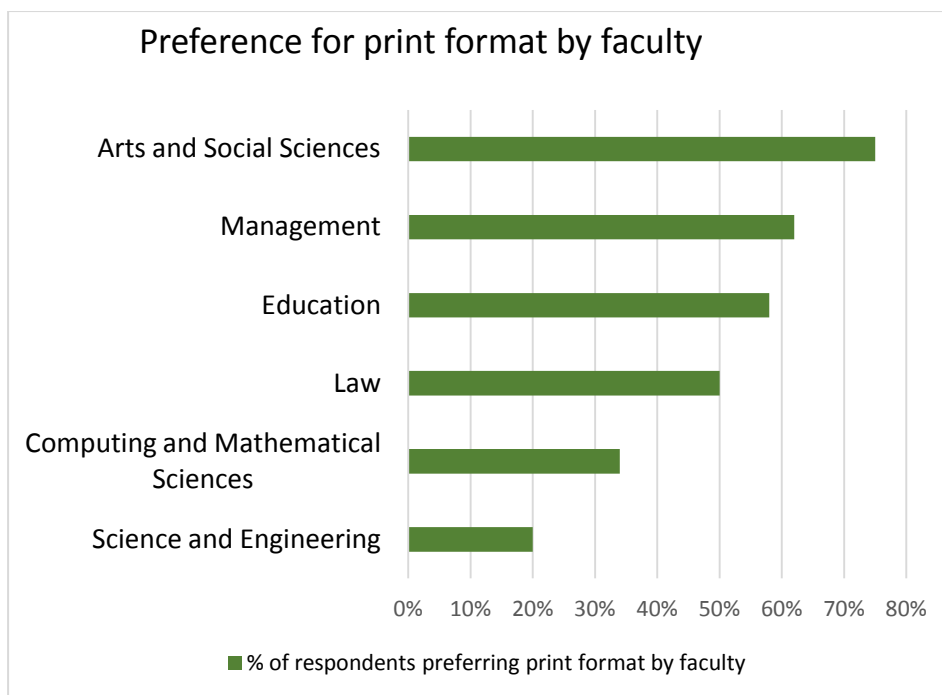


Figure 30. Preference for print format by faculty

50% of Computing and Mathematical Science, and Law students had no preference for format, as did 43% of those in the 20 and under category, again suggesting that younger students might be far more open to using electronic resources. If this is the case it might have major implications for e-book provision in academic libraries in the next few years. Further on-going study might help to understand if attitudes are changing overall or if attitudes to e-books change with the more study that a student undertakes.

### 5.18 Question 18: explanations of reasons for preference regarding book format

Respondents were asked to explain their reasons for their preference, as expressed in the previous question. Answering the question was optional and 59 responses were recorded in total. Two expressed a lack of preference either way, one because of happiness with any format, and one who used both print and e-book books depending on whether they were studying from home or at university.

17 responses contained positive comments about e-books in comparison with print books and 46 responses contained negative comments about e-books in relation to print books. Some comments contained both positive and negative comments about e-books.

### **5.18.1 Key reasons for preferring e-books over print:**

**Convenience** – The most common reason given for a preference for e-books was convenience, with users appreciating that they can access e-books from home without having to visit the Library, and that they don't have to spend valuable time searching the shelves to find books. "Being a distance student means I can access it immediately," said one respondent, "I tend not to use print versions because of this." Another pointed out that it is "easier to study from home, or look things up without having to trek in to the library."

A number of respondents highlighted that print books can be difficult to transport with one stating that "it is easier to carry around many e-books - they aren't so heavy." Another pointed out that by using e-books you "don't have to lug around several books."

**Functionality** – The second most common factor mentioned by respondents who had a preference for e-books was functionality, with full text searching and easier navigation between pages and chapters being highlighted.

**Cost** – The third most cited factor was cost with a number of students commenting that the easy access to e-books for multiple users meant they didn't have to purchase an expensive print text.

**Environmental factors** – The fourth most mentioned factor was environmental concerns, with some respondents talking of the cost to the environment of print textbooks compared to electronic versions. One respondent highlighted "the sheer amount of textbook wastage (paper, resources to make, and ship books)."

### **5.18.2 Key reasons for preferring print books over e-books:**

**Functionality** – The most common factor mentioned by those preferring print texts over e-books was functionality, with a number of respondents commenting on the greater ease of navigating pages, highlighting sections, making notes, and accessing different sections and chapters.

One respondent commented that e-books are "painful, slow to navigate." Another found it "more difficult to copy and paste from an e-book." "I like to annotate with pencil and to highlight," explained one student, "for some reason I find this easier in hardcopy than using

online tools.” A number of respondents highlighted the greater ease of navigating around a print book. “I like to flick between pages,” stated one, “this is difficult in the digital format.”

**Ease of reading** – The second most mentioned factor for those preferring print texts was ease of reading print books compare with e-books. A number of e-book users mentioned that any lengthy period of study was easier using print resources. “Using a screen for hours hurts my eyes,” complained one respondent. “Reading from the screen too long can cause tiredness and visual impairment,” argued another.

**Print texts better suited to the way students work** – A number of respondents highlighted that e-books were not suited to the way that students carry out their study. “I like to take notes on my computer,” said one student, “this means I can be looking at the hardcopy and typing rather than going between two documents on the computer.”

Print texts, many argued, were better for a “deeper impression” of texts, allowing greater concentration for lengthier study periods. “I feel like I interact more with the information on the printed page than on the screen,” said one respondent. “I do not read as deeply when reading e-books,” stated another. One student explained that using print material allowed “a much greater idea of where information is located for recall - a greater sense of place of those particular facts or quotes or ideas which works better for how my brain recalls information.”

Some respondents pointed out that e-books can be unsuited to the clear depiction of more detailed material. “For e-books to be useful,” stated one user, “I need to be able to print off a high quality version of the text rather than blurred equations.” One respondent warned that e-books “might be an economic convenience for the institution but this service does not benefit students or their research.”

**Access** – For a number of respondents access was an issue for e-books, with a computer and access to the Internet required to use them. Print books, it was argued, can be taken anywhere, including into exams. One respondent explained that “I often do reading while looking after the kids in odd places where there is no Wi-Fi or taking a computer is a bit risky (like to the swimming pool).” Another explained that “I can take the book anywhere and not have to worry about whether my laptop is running out of battery.”

**Preference for print/"what I'm used to"** – Often it merely came down to what respondents were used to. Many students simply preferred the feel of a print book. "I just like to have the hard copy in my hand," stated one student. Another stated that in the end it came down to the fact that "I like the tactile nature of thumbing through." For one respondent preference to print came down simply to the fact that "I'm old."

### **5.19 Question 19: importance of factors in increasing use, or improving the experience of, using e-books for academic study**

Respondents were asked to rate a number of factors in terms of how important they might be in increasing use, or improving the experience of, using e-books for academic study. This question was designed to improve understanding of factors that were important for users or potential users to assist libraries in improving e-book service provision. All 104 respondents who completed the questionnaire answered this question, irrespective of whether they had actually used an e-book or not.

Some of the most important factors for respondents were usability ones such as a better ability to make notes (50% thought this was very important), a better ability to search within full text (55% thought this was very important), and a better ability to highlight material (52% thought this was very important). These factors were particularly important for younger respondents – 79% of students in the 20 and under category, for instance, thought a better ability to search within full text was very important.

Please rate the following factors in terms of how important you think they might be in increasing your use, or improving your experience of, using academic e-books

Very important   Important   Neutral   Unimportant   Not at all important

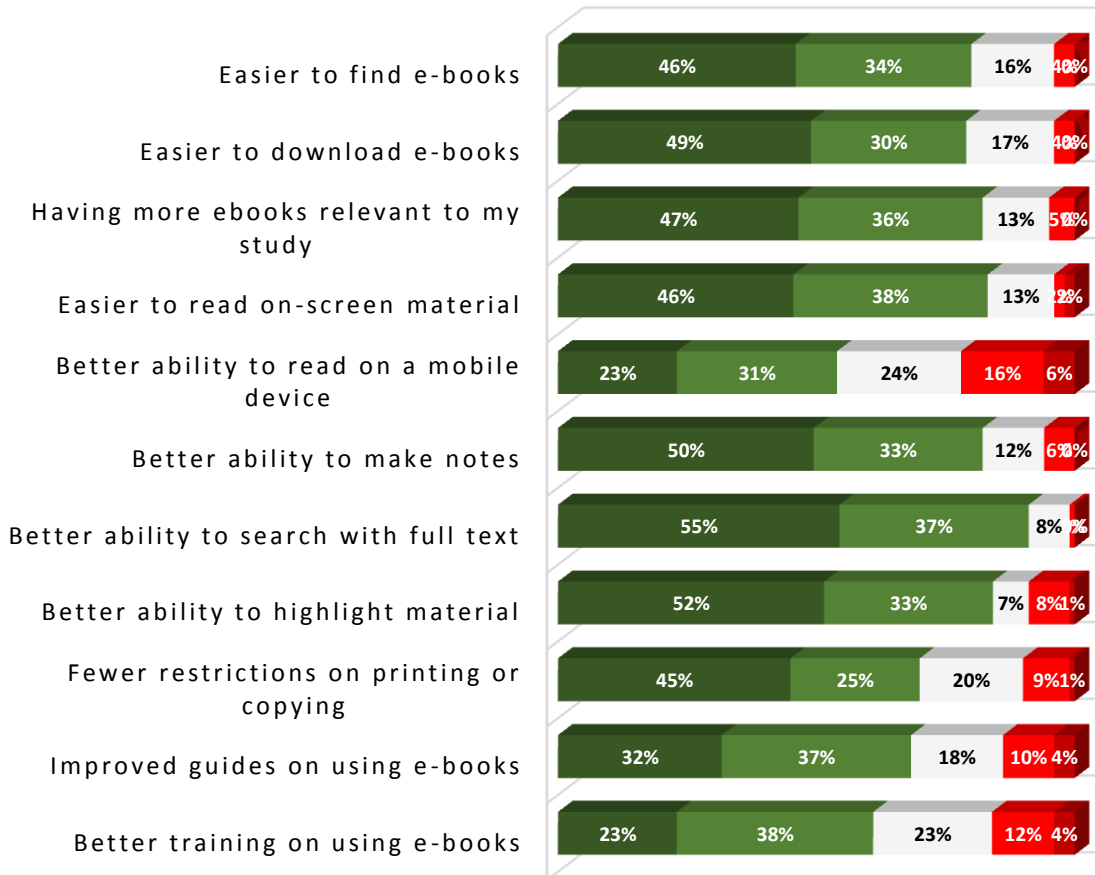


Figure 31. Importance of factors affecting e-book usage

Easier to read on screen material was also highlighted, reflecting comments made elsewhere in this study about the difficulties of reading books on a screen over a period of time. This was particularly important for students in the Faculty of Education. Having more relevant e-books for their study area was also highlighted as important, again reflecting comments elsewhere in this study and the availability of e-books. Easier to find and easier to download e-books were also considered to be important factors.



By far the least important factor for respondents was a better ability to read on a mobile device (only 23% thought this was very important with another 31% thinking it was important). Other comments in open ended questions suggest that this is not due to current satisfaction with the ability to read e-books on a mobile device but the fact that students tend to use e-books on lap-tops or desk top computers.

Much has been made of the growing use of mobile devices but, with regard to e-book usage for academic study, this study suggests that usability on desk top computers or lap tops is more important to students. The one group for which this factor was important was younger students, with 43% of students aged 20 and under thinking a better ability to read on a mobile device was very important.

Other factors that were less important for respondents included improved guides to using e-books (32% thought this was very important) and better training on using e-books (23% thought this was very important). These factors were more important for younger respondents, undergraduates in their first year of study, and also for Master's students.

58% of undergraduates in their first year of study thought better training on using e-books was very important. 77% of Master's students thought that better training was important or very important. Students generally seem relatively confident in using e-books but there remains a need for training focused on students new to the University.

## **5.20 Question 20: any other comments**

Respondents were asked if they had any further comments to make. This was an optional question and there were 40 responses.

### **5.20.1 Functionality**

The most common comment referred to e-book functionality and how it is inferior to using a print text book when it comes to academic study. "E-books are not very user-friendly," explained one student. Many were aware that highlighting and note-taking were available on e-books but thought that it was easier to do both using print texts. Electronic material is good for recreational reading, according to some, but academic study requires a higher level

of comprehension and a particular, more in-depth, way of working that is better suited to the use of print books.

The platforms that the Library used to provide e-books were criticised by some, suggesting that a single platform would be better, and preferably one that provided better navigation and functionality. “The current e-book reader within the library website is hideous to use,” argued one user, “really hard to move around in.”

The temporary nature of access was criticised by a number of students. “I lost all my notes and highlights when it expired,” complained one student. Downloading problems had been encountered by more than one user.

### **5.20.2 Ease of reading**

Ease of reading was the second most common comment recorded. Reading from a screen is difficult when using material for any length of time, according to a number of respondents. Using screens for too long, it was often argued is hard on your eyes. Print books were easier to read and much better for extended and in-depth academic study. “Reading a written page, as opposed to reading off a screen - it just clicks better in my opinion,” argued one respondent.

### **5.20.3 Lack of relevant e-books in subject area**

Lack of relevant e-books in subject areas was mentioned by a number of people. Law was the most commonly cited subject area. Mathematics and Computer Science were also areas mentioned where e-books were not always available, and when they were available they were not always relevant. “Most of the e-books for Computer Sciences are out of date,” stated one student.

Some respondents commented that e-books were available for some books but not the most important set text books, and that they would be far more likely to use e-books more if the main text books they used were available in e-book format. A number of people made the comment that they rely entirely on online articles and don’t read books of any sort any more. “In Science it’s all journals,” stated one student, “if there were more [e-books] in my subject area I might use them more.” “Educational institutions should be careful not to

treat all disciplines in the same way with respect to their purchasing policy for e-books,” warned one respondent.

#### **5.20.4 Need for training**

Some commented that there was a need for more training about the use of e-books, and more general information provided to students about their availability. A number of students mentioned that they would like to know more about e-book functionality.

#### **5.20.5 Changing libraries**

Some respondents said that using e-books removed the ability to browse library shelves. “When I don't know what I'm looking for I go in the library and browse around certain areas,” explained one student, “this allows me to find interesting titles. I feel I cannot do the same with e-books.” Other respondents, however, looked forward to freeing up space in the library by removing print books so more studying space and power points could be installed.

#### **5.20.6 The future of e-books**

Many respondents were enthusiastic about e-books, highlighting their convenience and easy access for distance students and students studying at home. There was an acceptance by many that libraries in the future would be far more centred on providing digital resources.

For a number of respondents, however, it was more important that access to print books continued to be provided. “I can see the benefit of e-books, paper saving, greater accessibility, etc.,” argued one respondent, “but I still prefer the functionality and feel of the actual books to study from.” “I like them,” said another student, “but I think there's enough digital material - I'm a bit of a bookworm.”

## 6 Summary of findings

The findings from this research can be grouped into three key areas: awareness and usage; access; and preference.

### 6.1 Awareness and usage

- 89% of all respondents were aware that the University Library provided access to e-books
- 88% of those who were aware that the University Library provided access e-book for academic study had actually used one
- 80% of those who were aware that the University Library provided access to e-books had used e-books on more than one occasion
- The ability to read e-books on a mobile device was not a major factor for students - only 4% said that they preferred to use a mobile device to access e-books
- 57% of users stated that they usually read selected pages or sections and only 7% of students usually read the majority of the book
- 60% agreed or strongly agreed that e-books provided by the Library were easy to use
- 23% of academic e-book users would prefer to read e-books from a screen
- 37% of users download the e-book and then read it from the screen
- 34% of users prefer to print off the relevant section from an e-book and read the print version – nearly half of all male respondents said they usually do this

### 6.2 Access

- Over 70% of academic e-book users accessed e-books through the University Library
- 67% of users stated that Library Search was their primary tool to find e-books
- 77% of users agreed or strongly agreed that e-books provided by the Library were easy to find and only 10% disagreed with this statement
- There were some notable differences between faculties, particularly between arts-based faculties and science-based ones

- There were some marked gender differences, particularly in terms of how students found e-books but also in terms of preference for e-book format (women seem far more likely to prefer e-books)
- 82% of users agreed or strongly agreed that relevant academic e-books were available for their study area, although only 50% of Law students agreed with this statement
- 38% of users accessed academic e-books mainly from home, 26% accessed them mainly from university, and 36% accessed them equally from home and university
- In the Faculty of Education 74% of users accessed e-books mainly from home and none of these students accessed them mainly from university, whereas 80% of Science and Engineering Faculty users accessed them mainly at university
- 29% of academic e-book users aged 20 and under, and 38% of first year undergraduates cited course material provided by their lecturer as the primary source of e-books

### **6.3 Preference**

- 56% of students who had used an e-book for academic study provided by the University Library, had a preference for using the print version of books
- Preference for print was largely due to issues of functionality and ease of reading
- Less than 10% of male academic e-book users expressed a preference for e-books while 23% of female users preferred e-books
- 75% of Arts and Social Science Faculty users prefer print, while only 20% of Science and Engineering Faculty users had the same preference
- 64% of distance students expressed a preference for print over electronic format
- Older e-book users generally prefer print books with preference for print changing from 29% of the 20 and under age range, increasing to 59% of students aged 21 to 30, and then 76% of students aged 41 - 50
- Only 33% of respondents who used academic e-books provided by the Library agreed or strongly agreed with the statement that if the Library had to choose one format for a title it should purchase the e-book

## 7 Conclusion

### 7.1 Conclusion

Compared to previous research, this study has found that students at the University of Waikato seem to have greater awareness of e-books, use e-books more, and have much higher levels of satisfaction with the ease of finding and using e-books. Many respondents were positive about e-books, mainly due to perceived convenience, but, when it comes to preference for book format, this study suggests that, despite greater awareness and usage, users retain a strong preference for print material.

Preference for print was largely due to issues of functionality and ease of reading, with a number of respondents commenting on the greater ease of navigating pages, highlighting sections, making notes, and accessing different sections and chapters when using a print book, and that studying using e-books was hard on the eyes.

A number of respondents highlighted that e-books were not suited to the way that researchers carry out their work. Print texts, many argued, were better for a deeper understanding of texts. For many it merely came down to what they were used to or a simple preference for the feel of a print book in their hands rather than an e-book on the screen.

Previous studies have suggested that there were not major differences between different genders and age-groups. This study suggests, however, that there are some interesting differences, including an increased preference for e-books among female students, and a greater acceptance for electronic material among younger students.

Patterns for postgraduate students were often similar to first year undergraduates suggesting that being new to the University was a major factor affecting e-book usage. The faculty in which a student studied also had an impact on usage patterns and attitudes, particularly when looking at science or arts-based subject areas.

## 7.2 Implications

This was a small scale study at one specific tertiary institution in New Zealand so caution should be used in drawing conclusions for libraries as a whole from this project. Further research is needed in other academic institutions in New Zealand to develop a more complete picture of student usage and attitudes towards e-books. This study does, however, highlight some important factors for academic libraries when looking to improve their e-book provision.

The University of Waikato Library seems to have done a good job in promoting e-books and in assisting students with their use, but more needs to be done, particularly with students who are new to the University, whether this is as an undergraduate or postgraduate level. In particular, there remains a lack of awareness of the functionality of e-books such as highlighting and note-taking. Academic libraries also have work to do in providing a simple and consistent platform for the delivery of e-books.

This study suggests that there are often substantial differences in how students of different age groups, levels of study and subject areas use e-books. The adoption of a more tailored service provision to different groups might prove fruitful. This study also suggests that there are some differences in usage and attitude based on gender with women tending to have a greater preference for e-books and using them in different ways to men. Again a more targeted strategy of support might be appropriate.

There needs to be awareness that many students still prefer print books and expect academic libraries to continue to provide academic books in this format. This seems to be despite that fact that general awareness of, and usage of, e-books seem to have increased. Issues of functionality continue to hamper usage.

The fact that only 33% of academic e-book users in this study agreed or strongly agreed with the statement that if the Library had to choose one format for a title it should purchase the e-book, should be a concern for libraries who give preference to e-books in their purchasing policy. Digital resources are becoming the norm in many fields, but for academic study using books, the majority of students still seem to prefer print and expect libraries to provide a range of formats including e-books and printed material.

Some responses in this study suggest that younger students might be far more open to using e-books for academic study. If this is the case it might have major implications for e-book provision in academic libraries. Attitudes towards e-books might change dramatically over the next few years. Further on-going study might help to understand how attitudes towards e-books are changing with every year.

### **7.3 Limitations of this study**

**Scale of the study** - This study was a small scale study at one academic institution in New Zealand. The total sample was 104 completed questionnaires from a total student population of over 12,000. It is therefore impossible to make definitive conclusions about the entire student population of the University or the entire student population of New Zealand. The study is a snapshot of usage and opinion at one university. Further study is required to develop an accurate picture of the university and the other tertiary institutions in New Zealand.

**Lack of data for certain groups** – The study asked certain questions about the students in order to have some cross tabulation of data. This included gender, age, level of study, and faculty. For certain groups, such as the School of Maori and Pacific Affairs, there were not enough respondents to have a usable sample. Cross tabulation analysis in the study focused on areas where the sample provided enough data for analysis.

**Data collection focus** – Data collection was based in and around the Student Centre – a central building in the University housing the Library, the Postgraduate Centre, the Finance Office, and Student Services. A large percentage of respondents would therefore have been students using the Library. It is likely, therefore, that non-users of the Library were under-represented in the sample.

**Limitations of the qualitative questions** – This project was a quantitative study of student usage and opinion. Some open ended questions were asked to gain additional insight into attitudes and usage. These questions were limited, however, and greater understanding of student attitudes would benefit from further qualitative research.



## 7.4 Opportunities for further study

**Wider scale study** - This study has been a small-scale project producing some interesting results and hinting at some important issues regarding the topic of e-book usage among students. A wider scale study would give more detailed data on the topic and provide additional insight.

**On-going research** – The use of technology is a fast changing environment. It would be useful to conduct a similar study over time to gauge changes in usage patterns and in attitudes towards e-book usage in tertiary institutions.

**In-depth analysis of usage** – A specific study of how student use e-books could provide additional detail to aid understanding of the topic as a whole. Researchers could observe selected students using e-books and record factors such as use of features, time taken to find information, ease of downloading and ease of use.

**Segmentation** – This research suggested some notable differences in usage and attitudes depending on age, gender, level of study, and subject area. Further analysis of these differences through quantitative and qualitative research might provide important insights into how libraries might target e-book service provision.

**Analysis of readability on screens** – Analysis of how students read from screens is needed to assess claims made by many in this study that reading from a screen for longer periods of time is difficult compared to reading from a printed book.

**Analysis of e-book collections** – A detailed investigation of e-book provision could provide useful insights into such factors as the relative coverage of subjects across faculties, the cost of e-books compared to print alternatives, and the value of e-books related to their usage.

**More in-depth qualitative research** – Open-ended questions in this study revealed a snapshot of student attitudes and opinions regarding the use of e-books for academic study. A more in-depth qualitative study might bring a deeper understanding of attitudes.

**Additional research on the same topic across New Zealand tertiary institutions** - Student use of, and attitude towards, the use of e-books for academic study remains an under-researched area in New Zealand. There is a need for further studies across different institutions in the country to obtain a greater understanding of the topic.

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## **Appendix A: participant information and consent**

**Research topic: An investigation into usage of, and attitudes towards, e-books for academic study among tertiary students in New Zealand**

**Researcher: Clive Wilkinson, School of Information Management, Victoria University of Wellington**

As part of the completion of my Master of Information Studies course at Victoria University of Wellington, this study is designed to investigate usage of, and attitudes towards, e-books for academic study in New Zealand. Victoria University requires, and has granted, approval from the School's Human Ethics Committee.

The study is focused on students at the University of Waikato and looks at how they use e-books, and their attitudes towards using e-books for academic study. The questionnaire has 20 questions and will take approximately 5 minutes. It will be available for completion from 22nd July 2015 to 28th August 2015. The researcher is an employee of the University of Waikato Library. This research has the support of the University Library and might be used by the Library to help develop service provision to students with regard to e-books.

Participation is voluntary, and you will not be identified personally in any written report produced as a result of this research, including possible publication in academic conferences and journals. All material collected will be kept confidential, and will be viewed only by myself and my supervisor. The research report will be submitted for marking to the School of Information Management at Victoria University, and subsequently deposited in the Victoria University Library.

A summary of the report will be provided on the University of Waikato Library website. All data collected from participants will be destroyed within 2 years after the completion of the project. If you have any questions or would like to receive further information about the project, please contact me by emailing me at [wilkincliv@myvuw.ac.nz](mailto:wilkincliv@myvuw.ac.nz) or by phoning me on 07 838 4749, or you may contact my supervisor Brenda Chawner, Senior Lecturer, School of Information Management, by emailing her on [brenda.chawner@vuw.ac.nz](mailto:brenda.chawner@vuw.ac.nz) or by phoning her on 04 463 5780.

### **Consent**

- I have been given and have understood an explanation of this research project
- I understand that any information I provide will be kept confidential to the researcher and their supervisor, the published results will not use my name, and that no opinions will be attributed to me in any way that will identify me
- I understand that the University of Waikato Library supports this research and might use this study to develop service provision with regard to e-books
- I understand that the data I provide will not be used for any other purpose or released to others

## Appendix B: questionnaire

1. I am
  - A student at the University of Waikato
  - A distance student studying at the University of Waikato
  - Not a student at the University of Waikato (Thanks but this study is only for University of Waikato students)
  
2. Please indicate your age
  - 20 and under
  - 21-30
  - 31-40
  - 41-50
  - 51-60
  - 61+
  
3. Please indicate your gender
  - Male
  - Female
  
4. Please indicate your level of study
  - Undergraduate – Year 1
  - Undergraduate – Year 2
  - Undergraduate – Year 3
  - Postgraduate – Masters
  - Postgraduate – Doctoral
  - Other – please specify .....
  
5. Please indicate your faculty
  - Arts and Social Sciences
  - Management
  - Education
  - Computing and Mathematical Sciences
  - Science and Engineering
  - Maori and Pacific Development
  - Law
  
6. I have used an e-book for recreational reading
  - Yes
  - No
  
7. I have used (or attempted to use) an e-book for academic study
  - Yes (please continue from question 8)
  - No (please go to question 19)
  
8. When using e-books for academic study I have accessed them through

(Select all that apply)

- General Internet searching such as Google
- Google Scholar
- University Library
- Publisher's website
- Other – please specify - .....

9. I am aware that the University of Waikato Library provides access to e-books

- Yes
- No (Please go to question 19)

10. I have used (or attempted to use) an e-book provided by the University of Waikato Library

- Never (Please go to question 19)
- Once
- A few times
- Often

11. How did you first discover that the University Library provided access to e-books?

(Select all that apply)

- Library catalogue
- Library Search
- Publisher's website
- Library database
- Library website
- Library staff member
- Course material provided by lecturer
- Other – please specify - .....

12. How do you primarily locate e-books provided by the University of Waikato Library?

(Select all that apply)

- Library Catalogue
- Library Search
- Library database
- Publisher's website
- Course material provided by lecturer
- Other – please specify - .....

13. When reading academic e-books I usually read (Choose one)

- The majority of the book
- Individual chapters of the book
- Selected pages or sections of the book

14. When reading academic e-books I prefer to (Choose one)

- Read it from the screen
- Download it and then read it from the screen



- Print the relevant section and use the printed version
- Read on a mobile device
- Other (please specify) - .....

15. I access e-books provided by the University of Waikato Library (Choose one)

- Mainly from home
- Mainly at university
- Equally from home and at university

16. Please answer the following questions about academic e-books available at the University of Waikato using the scale from 'Strongly agree' to 'Strongly disagree'

		<b>Strongly agree</b>	<b>Agree</b>	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
a	E-books provided by the Library are easy to find					
b	E-books provided by the Library are easy to use					
c	The Library should purchase only e-books					
d	The Library should purchase only print books					
e	The Library should purchase both print and e-books					
f	If the Library has to choose one format for a title it should purchase the e-book					
g	Relevant e-books are available for my study area					
h	I know where to go to get help using e-books					

17. Please state your preference when it comes to using books for academic study (Choose one)

- I prefer print books
- I prefer e-books
- I have no preference

18. Please explain the main reason/s for your preference in question 17:

19. Please rate the following factors in terms of how important you think they might be in increasing your use, or improving your experience of using e-books for academic study.

		<b>Very important</b>	<b>Important</b>	<b>Neither important nor unimportant</b>	<b>Unimportant</b>	<b>Not at all important</b>

a	Easier to find e-books					
b	Easier to download e-books					
c	Having more e-books relevant to my study					
d	Easier to read on-screen material					
e	Better ability to read on a mobile device					
f	Better ability to make notes					
g	Better ability to search within full text					
h	Better ability to highlight material					
i	Fewer restrictions on printing or copying					
j	Improved guides on using e-books					
k	Better training on using e-books					

20. Please use this space to make any other comments.

Thank you for taking to the time to complete this questionnaire.