# Perceptions Towards E-Book Usage in Universities A Case Study: Ajman University

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### Abstract

Electronic Books (E-books) have received swift acceptance amongst higher education institutions around the world. Universities, as well Ajman University (AU) in the United Arab Emirates, have been using technology effectively in teaching methods and learning processes. Since 2013, Ajman University provided e-books to the students in different colleges.

The purpose of this study is to understand the students' sentiments between the uses of textbook, compared to e-books. The study discusses different factors that affect the acceptance or the resistance of students toward using e-books as part of their course materials.

The study emphasized students' negative attitude towards e-book usage. Of those who did prefer e-book usage, low cost was number one reason. Furthermore, it discusses the different factors that resulted in students' attitudes towards e-book use as part of their course materials. The study showed that both the need to learn and technical skills, similarly affect their negative perceptions and reflect the loyalty of students to printed textbooks.

*Keywords: Electronic Book (e-Book), Ajman University (AU), United Arab Emirates (UAE)*

## 1. Introduction

Many academic institutions today have encouraged their students to use e-books and have provided them with effective access to e-book facilities. Rao (2003) mentions that e-books are rapidly becoming a viable alternative and it provides growing advantages over the traditional medium. Dew (2010) mentions that as the functionality of educational technologies improves, they have the potential to meet students' various learning needs and even improve their ability to learn. Rojeski (2012, p. 237) mentions that "e-books give the opportunity to the college students to replace the traditional textbook with e-books which offers a perfect opportunity to transform low use items into tools for student success." Grasha and Yangarber-Hicks (2000) mention that students' decisions to use different types of technologies vary greatly based on their individual preferences.

This study empirically tries to understand the attitudes of Ajman University (AU) students and their perceptions about using e-books instead of hard copy textbooks and tries to highlight the impact of the different factors (such as cost, weight, imperative and friendly usage) that may affect their acceptance or resistance.

## 2. Literature Review

### 2.1. E-books in Academia

"Electronic books" or "e-books" is the new word in the publishing industry. Vasileious et al. (2008) define "E-books" as a mixture of four primary features: media, content/file format, device, and delivery. The literature review reveals that one of the most significant changes in the publishing industry in the past ten years is the transition from print to electronic books, or e-books. Baye et al., (2015) agree that students are starting to use e-books because of several benefits. Anuradha & Usha (2006), similar to Davy (2007), found that multi-media, portability, and flexibility in searching/browsing were the advantages of e-textbooks, in addition to full-text searching and reference linking. Davy (2007) adds that e-textbooks have several good qualities over their traditional printed copy counterparts. Dillon (2001) approves that an advantage of e-books is that the ability to search the complete text with additional speed and flexibility. Woody et al., (2010) also determined that gender, computer use, or comfort with computers affected preference for e-textbooks. Jamali et al. (2009) note that e-textbooks may have an interactivity component whereas; a student can click on any word that is not understandable by the user and be taken to an immediate definition of the word. Researchers assume that students are ready for an educational "online" revolution. E-Books align with technology development because it gives university students the possibility to benefit from the technological facilities and all the advantages of computer and smart devices. Rao (2004: 363) mentions that "success or failure of e-books depend not only on acceptance by users, but also by the publishing

industry's ability to see beyond the traditional business model." Since college students nowadays own a laptop, tablet and smartphone devices and they are carrying them around day and night, it affords ubiquitous access to the internet. Woody et al. (2010) found e-textbooks offer greater flexibility and accessibility than printed copies, as well as increased visual appeal. Landoni and Diaz (2003) believe that electronic textbooks are counted as educational tools prepared electronically, which assist in teaching methods and learning. In fact, electronic learning provides easier and wider access to information for education. Shelburne (2009) mentions that e-book readers can find specific content more easily and more efficiently than in a textbook.

## 2.2. The advantages of e-books

Consequently, several educational institutions began to embrace the utilization of e-books through their libraries (Wu & Chen, 2011). Institutions allocated sufficient budgets to purchase e-books and gradually decreased the number of printed books (Wu & Chen 2011). Assuming that since students currently keep up with advanced technology, they could wish to abandon the utilization of printed books (Gregory, 2008). These e-book developments provide several benefits over printed books. Researchers declare numerous benefits of e-books: they are most likely cheaper, easier and faster than paper copies (Long, 2003); they will often be updated at a low value (Hawkins, 2000; Marcinko, 2000); font size is modified to assist the visually impaired (Rao, 2003); and many volumes stay lightweight as reading devices (Long, 2003). Sun et al., (2012) suggest that the positive impact of e-textbooks relate directly to the incorporation of features in the learning process. E-books might provide the chance to open additional windows that endorse extra data. Jamali et al., (2009) categorize the main advantages of using e-books into the following major categories: online access, ability to search, cost, and portability. Armstrong (2008) remarks that the reader is in a position to shift around the text, to trace alternative subjects, to send a message to the author and to mix alternative non-textual materials like moving and still pictures, tables and graphs, and audio and visual clips.

It is apparent that e-books offer several benefits for instructors and students via communication, interactivity and collaboration, inside and outside of the university campuses. E-books help professors utilize the vast amount of features available, such as the smart board and smartphone to engage students in the discipline. Liaw and Huang (2014) agree that the utilization of e-books is a learning tool. Armstrong et al., (2006) agrees that e-books usually assume to be giving the nice potential for teaching and learning, and are attractive to scholarly communities. Other features of the digital textbooks is the customization of the instructor's notes by using different resources such as chapters from different textbooks, journal articles, business cases and materials. Nicholas et al., (2007) mention that the use of e-books is an additional feature to media such as in videos or live cases, which can be combined to aid the instructors in teaching. Sun et al., (2012) suggest that the positive impact of e-textbooks related directly to the incorporation of features in the learning process. Turner (2005) identified a number of the same advantages as Davy (2007) and Jamali et al., (2009) found that providing multi-media and enabling "print on demand", could lend to individual learning styles.

## 2.3. E-Book disadvantages

Researchers agreed that e-books do have several disadvantages. Accessibility and ubiquity were major concerns by universities students but still offered them an alternative. Miller and Schrier (2015:19) observe that "students hesitate to use e-books. Publishers may question whether they are the most appropriate target market for them". They add, "in general, students still prefer printed textbooks to electronic textbooks." Hanho (2010:404) ensure that "e-book technology has a long way to go before it can equal the readability and richness of p-books." Garrod (2003) agree that new media such as e-books add to our choices rather than substituting one form for another. Pattuelli & Rabina (2010: 242) mention that "users recognize that dealing with chargers, downloads, files, joysticks, and keyboards, is different from dealing with paper, pages, or pens, but are discouraged by the change". Jamali et al., (2009) categorize problems in using e-book as access, printing, saving and carrying. Other disadvantages mentioned by the researcher, related to the instructors' age and technology handlers. Nicholas & Lewis (2010) mention that faculty at traditional colleges; particularly older faculty may not be as onboard with E-books due to the technical requirements needed to be connected to its features custom. E-books only work if you have a device to use them.

## 2.4. Statement of the case

Using E-books in higher education is bringing major changes to the educational environment. The switch from printed textbook to e-book may be appropriate to universities' decision-makers or scholars, but may take time for the students, and may be met with a certain level of resistance, as all changes do in all organizations. AU provides e-books to the students of different colleges, faces certain hesitancy among students, and it seems loyalty to paper textbooks is higher.

This study will try to inspect several inquiries: the first inquiry is trying to understand the students' perception regarding e-book usage among students in AU. Secondly, to highlight the different factors that may affect the acceptance or the resistance of students toward using e-book usage as an educational tool and part of their course materials, taking into consideration the student's gender. The study suggests two major variables that may affect the students' attitude, the studying style and learning need, and or the technical skills required to use, and benefit from e-book facilities. Therefore, the third inquiry is aiming to understand what their individual learning needs are, what their technical skills are and their technical capabilities, which may influence their perception and attitude to use e-book usage.

## 3.   Methodology

This study selected convenience sample of 700 undergraduate students from all the seven colleges in AU in the United Arab Emirates (UAE). The set of questions were designed to understand the students' perception towards using e-books instead of textbooks, and determine their standpoint behind the acceptance or resistance of using e-books. The questions also highlighted if the students' gender, learning needs, studying style and technical skills may affect their choices.

# 4.   Results and discussion

The study adopted a quantitative research method. Out of 1350 who received the survey at Ajman University in the United Arab Emirates (UAE), 1127 responded, resulting in an 83.4% response rate. The surveys were distributed on a face-to-face basis by using simple convenience sampling. The survey included a section that inquired about demographic characteristics such as gender, colleges, and the students' academic year in AU. The number of female respondents was 53.33 % higher than their male cohort, which was at only 46.67 % (figure 1)

**Gender**

|       |        | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------|-----------|---------|---------------|--------------------|
| Valid | Male   | 526       | 46.7    | 46.7          | 46.7               |
|       | Female | 601       | 53.3    | 53.3          | 100.0              |
|       | Total  | 1127      | 100.0   | 100.0         |                    |

**Descriptive Statistics**

|                      | N    | Minimum | Maximum | Mean   | Std. Deviation |
|----------------------|------|---------|---------|--------|----------------|
| Gender               | 1127 | 1.00    | 2.00    | 1.5333 | .49911         |
| Valid N (list wise)  | 1127 |         |         |        |                |

**Figure 1:** The gender of the students who took part in this study

The students represented all the colleges in AU. The surveys indicate that 18.99% of the respondents were from the 'Business Administration' college, followed by the 'Pharmacy' college with 18.72%, while the 'Dentistry' college gathered 14.11% of respondents.

**College**

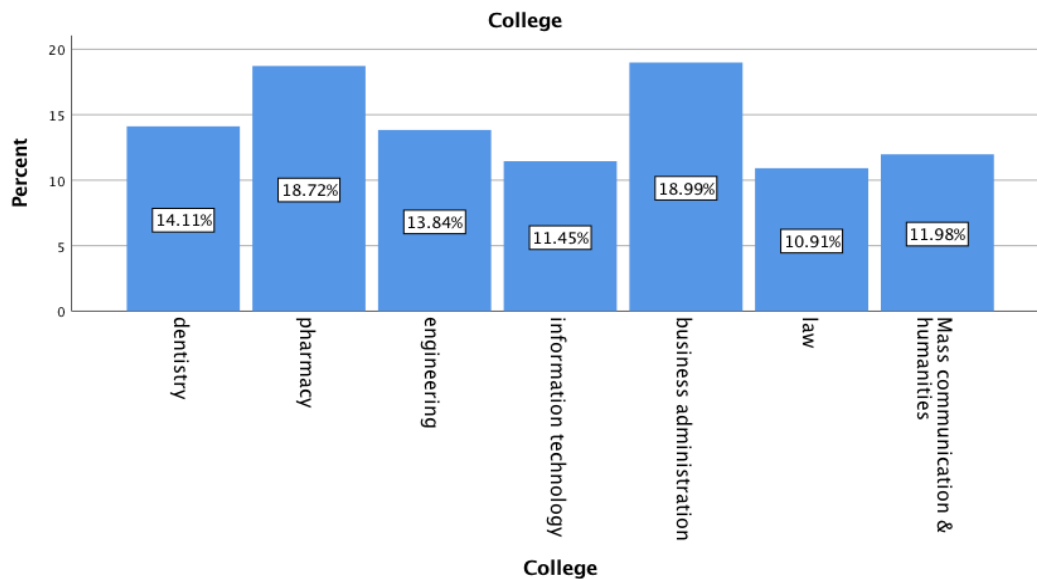|       |                                    | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|------------------------------------|-----------|---------|---------------|--------------------|
| Valid | Dentistry                          | 159       | 14.1    | 14.1          | 14.1               |
|       | Pharmacy                           | 211       | 18.7    | 18.7          | 32.8               |
|       | Engineering                        | 156       | 13.8    | 13.8          | 46.7               |
|       | Information technology             | 129       | 11.4    | 11.4          | 58.1               |
|       | Business administration            | 214       | 19.0    | 19.0          | 77.1               |
|       | Law                                | 123       | 10.9    | 10.9          | 88.0               |
|       | Mass communication & humanities    | 135       | 12.0    | 12.0          | 100.0              |
|       | Total                              | 1127      | 100.0   | 100.0         |                    |



**Figure 2:** the respondents from AU sorted by colleges

The 'Engineering' college had 13.84% of respondents, the 'Information Technology and Mass Communication College,' and the 'Humanities' college had the same number of respondents, with 11.98% respectively and the college of 'Law' had the least number of respondents with 10.91% see (Figure 2).

The majority of respondents were from the second year with 35.85% followed by 31.77% from the third academic year, 15.17% from the fourth year, 13.93% from the first year, and the lowest response was from the fifth year. The respondents' gender sorted by academic years showed that 44.6% were male students and 55.4% were female from the first year in AU. In the second year, the respondents were 47.3% male and 52.7% female, while in the third year, 52% male and 48% female; and in the fourth year, 39.8% male and 60.2% female. 29.7% of the respondents were male students and 70.3% female in the fifth year. (Figure 3)

| Academic years at Ajman university * gender Crosstabulation | | | | | |
|---|---|---|---|---|---|
| | | | **Gender** | | Total |
| | | | **Male** | **Female** | |
| Academic years at Ajman University | **First** | Count | 70 | 87 | 157 |
| | | % Within Academic years at Ajman university | 44.6% | 55.4% | 100.0% |
| | | % Within gender | 13.3% | 14.5% | 13.9% |
| | | % Of Total | 6.2% | 7.7% | 13.9% |
| | **Second** | Count | 191 | 213 | 404 |
| | | % Within Academic years at Ajman university | 47.3% | 52.7% | 100.0% |
| | | % Within gender | 36.3% | 35.4% | 35.8% |
| | | % Of Total | 16.9% | 18.9% | 35.8% |
| | **Third** | Count | 186 | 172 | 358 |
| | | % Within Academic years at Ajman university | 52.0% | 48.0% | 100.0% |
| | | % Within gender | 35.4% | 28.6% | 31.8% |
| | | % Of Total | 16.5% | 15.3% | 31.8% |
| | **Fourth** | Count | 68 | 103 | 171 |
| | | % Within Academic years at Ajman university | 39.8% | 60.2% | 100.0% |
| | | % Within gender | 12.9% | 17.1% | 15.2% |
| | | % Of Total | 6.0% | 9.1% | 15.2% |
| | **Fifth** | Count | 11 | 26 | 37 |
| | | % Within Academic years at Ajman university | 29.7% | 70.3% | 100.0% |
| | | % Within gender | 2.1% | 4.3% | 3.3% |
| | | % Of Total | 1.0% | 2.3% | 3.3% |

**Figure 3:** Students sorted by academic year and gender in AU

The first inquiry in the study was to understand the students' perceptions of AU's decision to use e-books as an alternative to textbooks. 66.90% of the respondents indicated that, they prefer printed textbook and disapproved of the decision to use e-books in AU, while 33.10% supported AU's decisions in using e-books due to low costs. Foros et al., (2014) declare that the structure of the e-book market is such that retail prices will be higher when agency agreements are used. This means that if the retailers' goal is to increase the prices of the e- book, then price control and the competitive pressure will minimize the cost difference between the e-book and the textbook. This may be explain why other respondents from different colleges still prefer to use printed books. (Figure 4 and figure 5)

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 373 | 33.1 | 33.1 | 33.1 |
| | No | 754 | 66.9 | 66.9 | 100.0 |
| | Total | 1127 | 100.0 | 100.0 | |

**Figure 4:** the students' preference to use e-books or not

**Are you with ajman university decision to use E-book as a source of course materials? * College Crosstabulation**

| | | | dentistry | pharmacy | engineering | information technology | business administration | law | Mass communication & humanities | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Are you with ajman university decision to use E-book as a source of course materials? | yes | Count | 69 | 70 | 50 | 38 | 45 | 46 | 55 | 373 |
| | | % within Are you with ajman university decision to use E-book as a source of course materials? | 18.5% | 18.8% | 13.4% | 10.2% | 12.1% | 12.3% | 14.7% | 100.0% |
| | | % within College | 43.4% | 33.2% | 32.1% | 29.5% | 21.0% | 37.4% | 40.7% | 33.1% |
| | | % of Total | 6.1% | 6.2% | 4.4% | 3.4% | 4.0% | 4.1% | 4.9% | 33.1% |
| | no | Count | 90 | 141 | 106 | 91 | 169 | 77 | 80 | 754 |
| | | % within Are you with ajman university decision to use E-book as a source of course materials? | 11.9% | 18.7% | 14.1% | 12.1% | 22.4% | 10.2% | 10.6% | 100.0% |
| | | % within College | 56.6% | 66.8% | 67.9% | 70.5% | 79.0% | 62.6% | 59.3% | 66.9% |
| | | % of Total | 8.0% | 12.5% | 9.4% | 8.1% | 15.0% | 6.8% | 7.1% | 66.9% |

**Figure 5:** Students reposing to e-books usage sorted by Colleges

Regarding the second inquiry, the survey was developed with a series of questions to assess the negative or positive attitudes toward e-books. The respondents, who claimed positive attitudes, agree that e-books are less expensive as a first choice. The second reason was that they are portable and lightweight, enabling students to search and benefit through all of the e-books technological facilities. However, to understand the factors that reflect the negative attitude towards e-books, the surveys were designed to differentiate between two variables: e-book features matching with their learning and studying needs, or lack of students' technical skills and capability. The study reveal that 46% agree that e-books are not that helpful and manageable, and does not cater to their need of studying and learning, while the remainder decided that it was the absence of technical skills, that was the cause of this negative attitude.

To address the third inquiry, the students were asked to select from a list of possible reasons related to their learning needs and technical skills. Students were required to approach these questions in a way that enabled them to select the most important reason for their preference. The survey shows that 30.6% of the male respondents and 33.4% of the female respondents mentioned that printed books are preferable to their learning and studying needs. The female students 53.5% were more faithful to printed textbooks as they associated them with an ability to write notes, the font size and to insert shapes or draw, which features not fully supported by e-books (Figure 6 and figure 7).
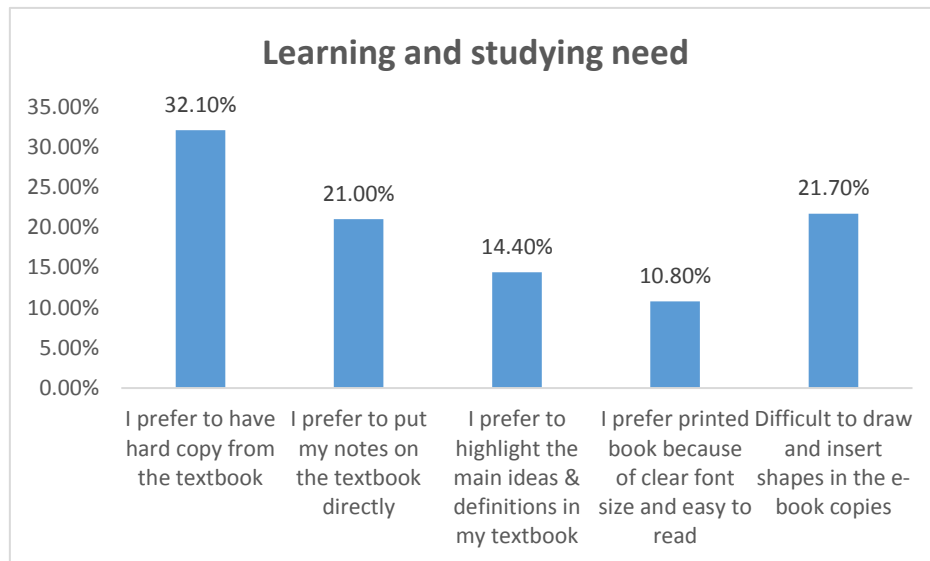


**Figure 6:** the students learning and studying needs in using the two forms of books

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| I prefer to have a hard copy of the textbook | 1127 | 1 | 5 | 2.36 | 1.318 |

| | | | | | |
|---|---|---|---|---|---|
| I prefer to put my notes in the textbook directly | 1127 | 1 | 5 | 2.57 | 1.147 |
| I prefer to highlight the main ideas & definitions in my textbook | 1127 | 1 | 5 | 2.88 | 1.145 |
| I prefer printed book because of clear font size and easy to read | 1127 | 1 | 5 | 3.58 | 1.319 |
| Difficult to draw and insert shapes in the e-book copies | 1127 | 1 | 5 | 3.61 | 1.604 |
| Valid N (list wise) | 1127 | | | | |

**Figure 7**: The students' studying and learning need an

Several questions were addressed to understand the students' perception of technical skills. The students classified themselves according to their skills in accessing, navigating, and using e-books facilities. According to Yager et al. (2011), the way professors apply technology in class also makes a difference in the approach students choose. The study gathered that both male and female students 16.1% faced a lack of technical skills that hindered their understanding of e-book imperative, formats, patterns, and facilities. 31.8% agreed that reading e-books is not comfortable and caused certain fatigue during reading; also, using a laptop or any digital device and being online provided distractions. 19.8% of the students admitted that internet availability and access is needed to use electronic versions that are not available outside the AU campus (see Figure 8 and Figure 9).
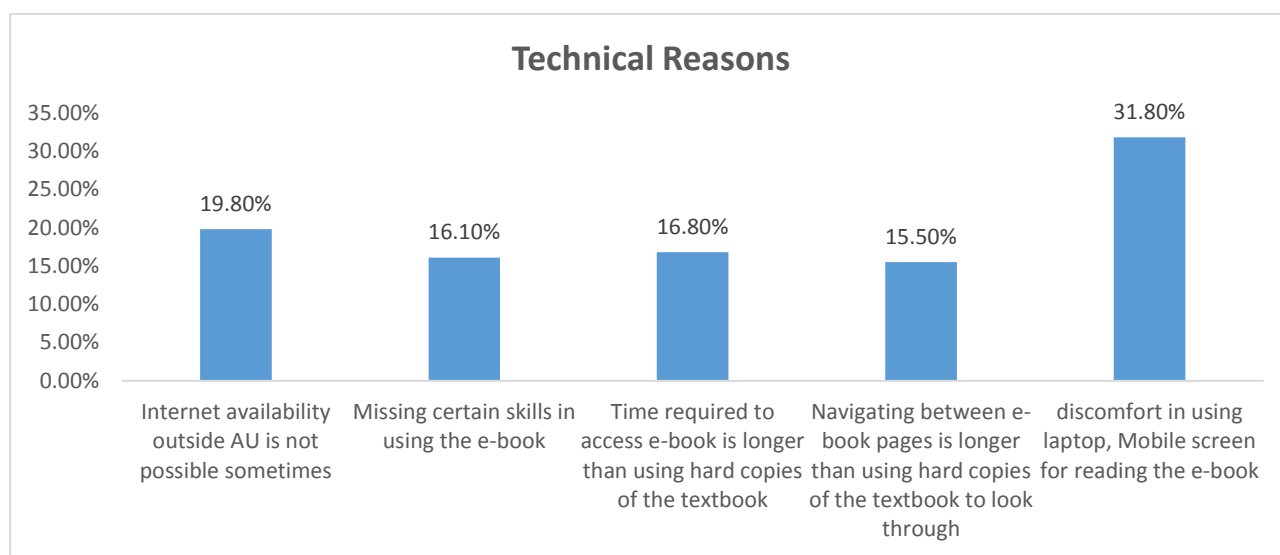


**Figure 8:** The technical reasons for not using e-book

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Internet availability outside AU is not possible sometimes | 1127 | 1 | 5 | 3.03 | 1.470 |
| Missing certain skills in using the e-book | 1127 | 1 | 5 | 2.87 | 1.219 |
| The time required to access e-book is longer than using hard copies of the textbook | 1127 | 1 | 5 | 2.96 | 1.305 |
| Navigating between e-book pages is longer than using hard copies of the textbook to look through | 1127 | 1 | 5 | 3.24 | 1.422 |
| discomfort in using a laptop, Mobile screen for reading the e-book | 1127 | 1 | 5 | 2.89 | 1.597 |
| Valid N (list wise) | 1127 | | | | |

**Figure 9:** the technical reasons sorted by gender

## 5. Conclusion

Technological innovation enhances most students' way of life, and it gives them ubiquitous access to current and diverse information from many sources through their digital devices. Colleges, universities, and instructors have to understand and promote the advantages of using e-books for students. AU is adapting an e-book strategy in almost all colleges in the university from different colleges such as business, dentistry,

pharmacy, law, information technology, engineering, mass communication and humanities. They are struggling with this strategy and that is why this study was essential.

The surveys showed almost comparable negative attitude in the use of e-books, but the female students were slightly more loyal to a printed textbooks than male students were. In addition to the weight, availability in class and enhanced learning innovation, led them to have no intention to replace printed-books with e-books. Cost however, was the greatest factor.

The study indicates that the students' decision to use or not use e-books would vary based on their individual style of studying and learning needs, or technical skills required. Both female and male students agree that they prefer to have and use printed textbooks for studying. Numerous factors labeled by the study are the reasons behind their loyalty to textbooks. This includes compatibility with their studying style and learning needs, that it is easier to write notes and summarize important concepts, as well as highlighting key ideas and formulas. They also feel it is faster to navigate between the pages.

Martin and Platt (2001) agree that students tend to prefer to read from printed-books, rather than from e-books. The study observed that the discomfort and eye fatigue after comprehensive reading might not motivate the students to use e-books. Internet connections and Wi-Fi access were the main factors for both genders in regards to e-books usage. Both male and female students agreed that a lack of technical skills to use and benefit from e-book facilities held them back. This was in addition to the time required to access the e-books, the inability to highlight main ideas and definitions, summarize important concepts, draw or write notes. Also, font sizes, screen usage and being online provided distractions for both male and female students.

Overall, considering the outcomes of the study, it can be deduced that e-books have claimed their place as innovative learning tools, but not alternatives to textbooks, since the printed textbook format is ideal for students at the university. These study results may corroborate with similar studies that stress students' unwillingness to exclude the text format from their studies. This survey provides only a partial view. However, as the researchers prepare to survey AU colleges on e-books, the patterns identified in this study may change with additional feedback from other university stakeholders

## 6. Recommendation and future research

This study designated that students hesitate to use e-book technology. Further improvements are needed. Publishers and technology designers are required to improve e-book formats and features to encourage e-book usage. Studying style, internet availability and accessibility are one of the most essential elements in understanding why students are not motivated to use e-books.

The purpose of this survey is to inform a supportable solution for providing educational resources in the digital age. The students, in general, are not yet ready to entirely give up textbooks, but e-books are becoming increasingly common. However, the great challenges is making e-book content more available and enabling improved comprehension and reducing eye fatigue.

AU may require familiarizing themselves with an awareness strategy before switching to e-textbooks (which may be unavoidable) and this may also take time and be encountered with resistance, as all changes do in different organizations. Perhaps a complete approach that provides variety and choice of formats between e-books and textbooks is possible.

The use of instructional videos by AU on their interactive student platforms like Moodle or Banner, to train and explain the format and the features of e-books may help the students. Also, modification and development of future textbook delivery systems and features will encourage the students to use e-books more.

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