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PRINTED TEXTBOOKS OR E-BOOKS? UNDERSTANDING STUDENTS' PREFERENCES THROUGH AN EXTENDED TECHNOLOGY ACCEPTANCE MODEL

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Abstract:

The study explored the preference of undergraduate students for printed textbooks and e-books and the influence of Perceived Convenience, Perceived Usefulness, Reading Comfort, Cost Effectiveness and Technology Readiness on the preference. Unlike previous studies that primarily compare usage patterns, this study simultaneously examines technological, cognitive and economic determinants of textbook format preferences among accounting students. A quantitative cross-sectional survey was undertaken on 324 undergraduate accounting students at Universiti Teknologi MARA (UiTM) Perak Branch using a standardized questionnaire. Descriptive statistics, Pearson correlation and multiple linear regression were used to analyse the data. Results showed that students still preferred printed textbooks over e-books even as e-books became more available. However, Perceived Usefulness was the largest predictor of students' preference for e-books followed by Technology Readiness, Reading Comfort, Cost Effectiveness and Perceived Convenience. The data imply that students are not rejecting e-books or clinging to a preference for printed textbooks because they are resistant to technology. Rather, they think on the functional benefits of e-books compared to the cognitive and sensory benefits of printed

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textbooks. The findings extend the Technology Acceptance Model by demonstrating that technology acceptance alone does not determine learning resource preferences. The experiential factors such as reading comfort continue to influence students' choices. This study offers practical insights into the design of balanced student-centred learning environments that integrate printed and digital learning resources.

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Keyword:

Printed Textbooks, E-Books; Student Preference, Technology Acceptance Model, Higher Education.



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Introduction

The fast development of digital technology has altered teaching and learning methods in higher education. It leads institutions to include electronic learning resources such as e-books, online journals and digital learning platforms into their educational environments. The increased availability of mobile devices and internet technologies has also contributed to this increased adoption of digital learning resources by providing students with improved accessibility, flexibility and convenience in their access to academic materials (Buzzetto-Hollywood & Thomas-Banks, 2022; Wong & Jeganathan, 2020). Hence, e-books are becoming an increasingly relevant element of higher education because they provide students with the ability to access learning materials whenever they want and include features like keyword searching, portability and interactive learning support (Su, 2022; Amirtharaj et al., 2023).

However, the printed textbook remains a crucial part of higher education. Prior research by Baron et al. (2017), Singer & Alexander (2017) and Mizrachi et al. (2018) indicate that a significant number of university students continue to favour printed textbooks by citing their use in aiding focus, annotating and engaging in deep comprehension during extended reading sessions for academic purposes. According to Johnston and Salaz (2019), printed textbooks were also seen as more appropriate for review and exam preparation. On the other hand, several studies have shown that students are becoming more interested in e-books for their portability, accessibility, ease and flexibility, especially in technology-enhanced learning contexts (Divya & Haneefa, 2020; Chavali & Gundala, 2022; Su, 2022). The mixed findings suggest that students commonly use both printed version and digital version of learning resources rather than one format, based on their academic demands,

The differences in findings among studies suggest that technology is not the only factor shaping students' preference for printed textbooks or e-books. According to Davis (1989), one of the most important factors in determining technology adoption is how helpful people think it is. People are more likely to use a technology if they think it makes their work easier. Research suggests that students consider several factors when selecting learning resources, including their usefulness, convenience, reading comfort, cost, and familiarity with technology (Ngafeeson & Sun, 2015; Salloum & Shaalan, 2019; Okuonghae et al., 2022; Mizher & Alwreikat, 2023; Feng et al., 2025). When looked at as a whole, these factors give us a better picture of why students accept and keep using printed and digital learning resources.

Many studies have compared choices between printed textbooks and e-books. However, there are still some areas that need more research. Many earlier studies only looked at single factor that affected people's decision to use e-books instead of putting all of these factors into one conceptual framework (Chavali & Gundala, 2022; Su, 2022; Amirtharaj et al., 2021). Although e-books have become increasingly accessible in higher education, evidence on students continued preference for printed textbook remains inconsistent, particularly in discipline-specific contexts such as accounting education. To make sure that investments in digital learning resources meet students' academic needs and work well with traditional learning materials, it is important to know what makes students choose the resources they do.

In light of this, this study looks into how accounting students at Universiti Teknologi MARA (UiTM) Perak Branch feel about printed textbooks and e-books. The study's specific goals are as follows:

- to identify students' preferred learning resource
- to determine the levels of perceived convenience, perceived usefulness, reading comfort, cost effectiveness, technology readiness, and students' preference, and examine the influence of these factors on students' choice between printed textbooks and e-books.

It is hoped that the results will add to the body of research by showing real-life examples from higher education in Malaysia, especially in the contexts of accounting discipline. In addition, they will also help universities, teachers, and publishers make better learning environments and materials that suit all of their students' individual learning styles.

Literature Review

Printed Textbooks, E-books and Students' Preferences

Learning materials are important tools that help students do well in their studies and enjoy their time learning. Textbooks have traditionally been seen as the best way to get structured knowledge because they allow for notetaking, long reading and deep concentration. But the quick adoption of technology in higher education has changed how learning materials are made, shared and viewed. Increasingly, educational institutions offer both printed and electronic textbooks to support flexible and digitally enhanced learning environments (Buzzetto-Hollywood & Thomas-Banks, 2022; Wong & Jeganathan, 2020).

Even though a growing number of e-books are available, earlier studies had mixed results about how students liked to learn best. Many studies show that printed textbooks are still the best way to read because they are more comfortable, help students focus, keep their eyes from getting tired from reading and improve understanding during long reading sessions (Baron et al., 2017; Singer & Alexander, 2017; Mizrachi et al., 2018; Johnston & Salaz, 2019). These studies show repeatedly that printed materials help the brain work better, which is especially helpful for students who are learning difficult subjects or studying for tests.

On the other hand, many studies have shown that e-books are becoming more popular in higher education. E-books are becoming more and more popular among students because they are portable, easy to access right away, have keyword searching, interactive features and can be used on multiple devices to access learning materials. When flexibility and remote access are important, like in mixed and online learning settings (Divya & Haneefa, 2020; Chavali & Gundala, 2022; Su, 2022; Amirtharaj et al., 2023), these benefits are especially useful. Since the COVID-19 pandemic, online learning has grown very quickly. This has made students even more familiar with digital learning tools and sped up the adoption of e-books.

Recent studies show that students do not really have a clear preference for either printed textbooks or e-books. Instead, they use both increasingly, depending on what they want to learn. E-books are often used for quick reference, information retrieval, collaborative learning, and studying while traveling (Su, 2022; Amirtharaj et al., 2023) whereas printed textbooks are better for intensive reading, reviewing, and remembering what you've learned. Instead of a clear favourite format, these results show that students' choices change and depend on the setting, showing that there is not a single best way to learn.

Even though there is growing evidence comparing printed textbooks and e-books, the results are still not clear. The lack of consistency suggests that students' choices are not only based on the features of learning materials, but are also affected by a number of psychological, technological, and financial factors. Therefore, identifying the determinants that makes students choose one option over another is still an important area of research.

Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) by Davis (1989) is the basis for this study. TAM is one of the most popular theories for explaining the reasons why individuals use and accept new technologies. TAM asserts that people are more likely to use a tool if they think it is useful and simple to use. Perceived usefulness has consistently shown to be the best predictor of behaviour purpose across a range of educational technologies, such as e-books and online learning platforms (Salloum & Shaalan, 2019; Smeda et al., 2017).

While TAM primarily focuses on perceived usefulness and perceived ease of use, later research has added more contextual factors to the model to better explain how students adopt new technologies. Previous research shows that students' choices in learning materials are also affected by perceived convenience, reading comfort, financial considerations, and technology readiness, particularly within higher education where students use both printed and digital resources all the time (Ngafeeson & Sun, 2015; Okuonghae et al., 2022). Therefore, this study expands the use of TAM by adding these extra factors to give a fuller picture of why students choose one type of textbook over another (printed textbooks vs. e-books).

Perceived Usefulness

The degree to which students feel that utilizing a specific learning resource improves their academic performance and learning efficacy is known as perceived usefulness (Davis, 1989). Perceived usefulness has long been seen as one of the key factors affecting students' adoption of digital learning technology in higher education. Students are more likely to use e-books when they feel that these resources make learning easier, provide convenient access to information, and support their academic performance (Salloum & Shaalan, 2019; Mizher & Alwreikat, 2023).

Research continuously shows that students' behavioural intention to utilize e-books and other digital learning materials is positively influenced by perceived usefulness. Instant access, keyword searching, multimedia integration, and simplicity of information retrieval are examples of features that boost students' evaluations of the efficacy of their education and promote sustained use (Feng et al., 2025; Su, 2022). However, a number of studies also show that even if students recognize the value of e-books, many still favour paper textbooks for extensive academic reading because they offer a more favourable learning environment (Singer & Alexander, 2017; Mizrachi et al., 2018). These results imply that perceived usefulness should be taken into account in conjunction with other influencing factors in order to fully understand students' choices for learning materials.

Perceived Convenience

Perceived convenience refers to students' perceptions regarding the ease of accessing, carrying, and using learning resource. Since they are portable, instantly available and compatible with a variety of digital devices, e-books have significant advantages over printed textbooks. E-books are especially appealing in flexible learning environments because of these features, which allow students to access academic resources at any time and from any location (Tri-Agif et al., 2016; Wong & Jeganathan, 2020).

According to prior research, convenience has a beneficial impact on students' uptake of digital learning resources. Students are more likely to include e-books into their learning process if they value mobility, fast access and effective information retrieval (Su, 2022; Chavali & Gundala, 2022). However, students may still prefer printed textbooks while reading for extended periods of time or getting ready for tests. Thus, convenience does not always convert into general choice. This implies that rather than taking the place of the alleged educational advantages of printed materials, convenience affects particular learning processes.

Reading Comfort

Despite the rapid development of digital learning resources, students still favour physical textbooks due to the ease of reading. According to earlier research, printed materials make reading more comfortable. Baron et al. (2017), Singer & Alexander (2017) and Mizrachi et al. (2018) stated that printed resources may lowering eye strain, making annotation easier, enhancing focus as well as promoting deeper comprehension during prolonged reading sessions.

Reading comfort continues to be a significant factor in determining students' preferences for learning resource, according to recent empirical data. Similar findings were made by Johnston and Salaz (2019), Amirtharaj et al. (2023), and Almansour et al. (2026), who discovered that students typically select printed textbooks when interacting with academically challenging material because printed materials enhance cognitive engagement and knowledge retention. These results show that students still prefer the reading experience provided by printed textbooks despite advancements in digital technologies.

Cost Effectiveness

The cost of learning resource can influence students' choices, particularly when they consider whether the benefits justify the price. Students do not just look at the price tag but also consider what they will get out of it in the long run. They think about the long-term benefits like ownership, durability, resale value and ease of access. Because the textbooks for higher education can be very expensive, money is still a big reason why students decide what to buy. Research on students' textbook spending has shown mixed findings. Chavali & Gundala, 2022 suggests that e-books are a cheaper option because they do not have printing and distribution costs, which can save students money. But on the other hand, there are many students still prefer to buy printed textbooks even though they are more expensive. This is because, the students think the textbook are worth it in the long run. They like being able to own the book, sell it later and have a better learning experience (Chulkov & VanAlstine, 2013).

These implies that students are not just finding the cheapest option when deciding what to buy. Instead, they also concern about how useful it will be for their education. They are willing to pay more if they think it will help them learn better. This shows that students are making thoughtful decisions about how they spend their money on textbooks.

Technology Readiness

Technology readiness is the willingness and confidence of the people to adopt new technology in their regular activities. Students in higher education with higher levels of technology readiness tend to accept digital learning resources more as they have the required knowledge, confidence, and digital skills to use educational technologies effectively (Ngafeeson & Sun, 2015; Okuonghae et al., 2022).

Previous empirical investigations have documented a favourable impact of technological readiness on students' acceptance of e-books and other educational technologies. Students who feel confident with digital devices tend to find e-books easier to use, more valuable and more appropriate to their learning needs (Smeda et al., 2017; Wong & Jeganathan, 2020). However, the availability of technology does not necessarily mean that students will prefer e-books as their choice of learning materials is influenced by ease, comfort, perceived usefulness, and cost factors of reading. Technology preparedness can thus be considered as one of the multiple complementing elements affecting students' preferences for printed textbooks and e-books.

Conceptual Framework

As mentioned earlier, this study is underpinned by the Technology Acceptance Model (TAM) proposed by Davis (1989), which explains individuals' acceptance and use of technology based on two key determinants: perceived usefulness and perceived ease of use. While TAM provides

a robust theoretical foundation for understanding technology adoption, contemporary research has extended the model by incorporating contextual factors to better explain users' behavioural intentions in specific settings.

In the context of textbook preferences, students evaluate learning materials not only in terms of their perceived usefulness but also based on other factors. Accordingly, this study extends TAM by integrating Perceived Convenience, Reading Comfort, Cost Effectiveness, and Technology Readiness alongside Perceived Usefulness to provide a more comprehensive understanding of undergraduate accounting students' preferences for printed textbooks and e-books in the Malaysian higher education context.

The conceptual framework for this study is presented in Figure 1.

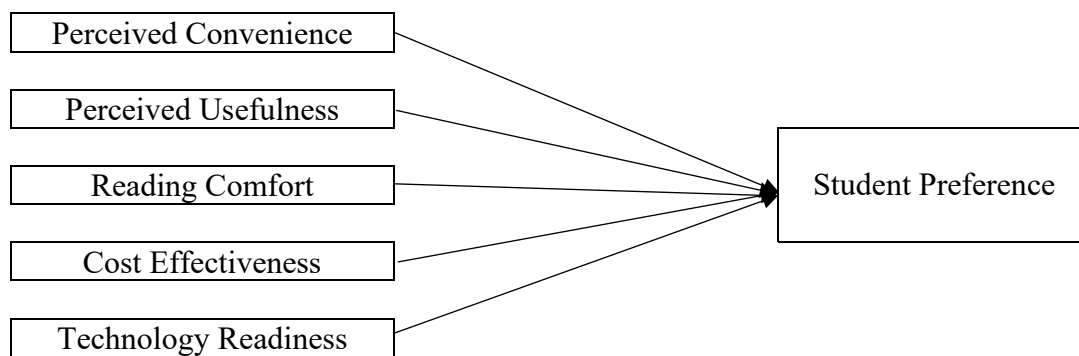


Figure 1: Conceptual Framework of the study

The conceptual framework suggests that Perceived Convenience, Perceived Usefulness, Reading Comfort, Cost Effectiveness and Technology Readiness affecting students' preference for printed textbooks and e-book. It led the construction of the research instrument, the choice of study variables and the statistical analyses used in this study, including descriptive statistics, Pearson correlation analysis and multiple linear regression analysis.

Methodology

The present study adopted a quantitative cross-sectional survey approach to explore the preferences of undergraduate accounting students for printed textbooks versus e-books and the factors influencing such preferences. A quantitative method was deemed appropriate since it allowed the perceptions of the respondents to be quantified via the structured questionnaire items and the correlations among the study variables to be statistically examined. The cross-sectional approach also permitted the collection of data at one point in time, thereby providing a snapshot of students' learning material preferences during the course of the study.

The target demographic was the undergraduate accounting students of Universiti Teknologi MARA (UiTM) Perak Branch who were using the prescribed e-book as one of their learning tools. The sample technique used is non-probability sampling, which is convenient sampling by selecting respondents based on the available and willing to engage in the research. The questionnaire was distributed electronically through Google Forms among all eligible students, and 324 valid questionnaires were returned from a sample of 938 students.

Data were obtained via a standardized questionnaire that was adopted from prior studies and updated to meet the objectives of the current investigation. Before the actual data collection, a pre-test of the questionnaire was conducted with five undergraduate students to check the clarity, readability and language of the questionnaire items. Minor modifications were made to the instrument based on input from the participants to increase the clarity of the instrument prior to full administration.

The questionnaire comprised four sections, as summarised in Table 1.

Table 1: Structure of the Questionnaire

Section	Description	Measurement Scale
A	Respondents' demographic information	Nominal scale
B	Students' preferences towards printed textbooks and e-books	Multiple-choice questions
C	Factors influencing students' preference (Perceived Convenience, Perceived Usefulness, Reading Comfort, Cost Effectiveness, and Technology Readiness)	Five-point Likert scale
D	Student Preference and open-ended comments	Five-point Likert scale and one open-ended question

Section A collected respondents' demographic information, while Section B examined students' preferences towards printed textbooks and e-books using multiple-choice questions. Section C measured the five independent variables, Perceived Convenience, Perceived Usefulness, Reading Comfort, Cost Effectiveness, and Technology Readiness whereas Section D measured the dependent variable, Students' Preference for Learning Materials, and included one open-ended question to allow respondents to provide additional comments.

The measurement items in Sections C and D were assessed using a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The Reading Comfort construct was measured using statements reflecting respondents' comfort with printed textbooks. Accordingly, higher scores on this construct indicate greater comfort with printed textbooks, whereas higher scores on the remaining constructs and the dependent variable indicate stronger preference for e-books.

The questionnaire was administered online via Google Forms. Respondents were informed of the purpose of the study and assured that their participation was voluntary. They were also informed that all responses would remain confidential and would be used solely for academic purposes. Only fully completed questionnaires were retained for subsequent statistical analysis.

Data Analysis

IBM SPSS Statistics Version 30 was used to analyse the data collected. The data set was checked before to the primary statistical analyses to confirm that it was adequate to conduct further analysis. Data screening is an important preparatory stage of quantitative research in which potential problems such as missing values, coding mistakes, and violations of statistical

assumptions can be detected which might affect the validity and reliability of the research results (Hair et al., 2019).

Descriptive statistics were employed to explain the demographic features of the respondents, their preferences for learning materials and the study constructs. Cronbach's Alpha was employed to check the reliability of the measurement instrument, and Pearson correlation analysis was used to check the correlations among the study variables. Finally, the multiple linear regression analysis was used to examine the effect of Perceived Convenience, Perceived Usefulness, Reading Comfort, Cost Effectiveness, and Technology Readiness on students' preference for printed textbooks and e-books.

Table 2 presents an overview of the statistical analyses made to satisfy the research objectives.

Table 2: Summary of Data Analysis

Research Objective	Statistical Analysis
To identify students' preference between printed textbooks and e-books.	Frequency and percentage analysis
To determine the level of perceived convenience, perceived usefulness, reading comfort, cost effectiveness, technology readiness, and student preference.	Mean and standard deviation
To examine the factors influencing students' preference between printed textbooks and e-books.	Pearson correlation and multiple linear regression

Results

Data Screening

A total of 324 completed questionnaires were available for analysis. No missing values were identified across the study variables; therefore, all responses were retained. The coded data were subsequently reviewed, and all variables were found to fall within their expected response ranges (minimum = 1.00; maximum = 5.00), indicating that no coding errors or invalid responses were present.

The assumption of normality was assessed using skewness, kurtosis, and formal normality tests. As shown in Table 3, the skewness values ranged from -0.692 to 0.281 , while kurtosis values ranged from -0.384 to 0.205 , both of which fall within the recommended thresholds of ± 2 and ± 7 respectively, indicate that the variables are sufficiently normally distributed for multivariate statistical analyses (Hair et al., 2019; Kline, 2016). Although the Kolmogorov–Smirnov and Shapiro–Wilk tests were statistically significant ($p < .05$), this result is expected for large samples because these tests are highly sensitive to minor deviations from normality (Field, 2018; Pallant, 2020). Overall, the data were considered approximately normally distributed and suitable for subsequent parametric analyses.

Table 3: Assessment of Normality of Study Variables

Construct	Skewness	Kurtosis	Interpretation
Perceived Convenience	-0.365	0.205	Approximately normal
Perceived Usefulness	-0.044	-0.384	Approximately normal
Reading Comfort	-0.692	-0.107	Approximately normal
Cost Effectiveness	0.050	-0.147	Approximately normal
Technology Readiness	-0.183	0.107	Approximately normal
Student Preference	0.281	-0.065	Approximately normal

Respondent Profile

Table 4 presents the demographic characteristics of the respondents who participated in the study.

Table 4: Demographic Profile of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	246	75.9
	Male	78	24.1
Programme of Study	AC110	236	72.8
	AC120	80	24.7
	AC151	8	2.5
Year of Study	Extended Full-Time (SML)	4	1.2
	Part 2	190	58.6
	Part 3	17	5.2
	Part 4	113	34.9
Average Daily Screen Time for Academic Purposes	Less than 2 hours	32	9.9
	2–4 hours	180	55.6
	5–7 hours	102	31.5
	More than 7 hours	10	3.1
Own a Device Suitable for Reading E-books	Yes	258	79.6
	No	66	20.4

As shown in Table 4, the sample comprised predominantly female students (75.9%), while male students accounted for 24.1%, reflecting the gender composition of the accounting programmes included in this study.

The majority of the respondents were enrolled in the Diploma in Accountancy (AC110) program (72.8%), followed by the Diploma in Accounting Information Systems (AC120) (24.7%) and the Professional Program (AC151) (2.5%). The majority of the sample were in Part 2 students (58.6%), followed by Part 4 (34.9%), Part 3 (5.2%) and Extended Full-Time (SML) students (1.2%).

Regarding digital learning habits, 55.6% of the respondents used digital devices for academic reasons for 2–4 hours per day and 31.5% for 5–7 hours per day. Only 9.9% utilized digital devices for less than 2 hours a day and 3.1% had more than 7 hours of academic screen time.

Furthermore, 79.6% of the respondents had a device that could be used to read e-books demonstrating that the students had enough access to digital learning resources. Thus, the fact that students prefer print over electronic texts cannot be explained by lack of access to the technology alone.

Students' Preference Towards Learning Materials

This section answers the first research objective which is to determine the preference of students on printed textbooks and e-books. The analysis expands on respondents' learning material consumption, perceived learning efficacy and overall learning material preference.

Table 5: Frequency of Using Printed Textbooks and E-books

Frequency	Printed Textbooks n (%)	E-books n (%)
Never	4 (1.2)	28 (8.6)
Rarely	28 (8.6)	123 (38.0)
Sometimes	87 (26.9)	107 (33.0)
Often	116 (35.8)	59 (18.2)
Very Often	89 (27.5)	7 (2.2)
Total	324 (100.0)	324 (100.0)

Table 5 reveals a significant difference between students' consumption patterns of printed textbooks and e-books. 63.3% of respondents said they used printed textbooks often or very often, compared to only 20.4% who used e-books with the same regularity. However, over half of the respondents (46.6%) stated that they rarely or never read e-books. Even though digital materials are becoming increasingly available, the findings indicate that printed textbooks remain the main learning resource used by the respondents. This may be because students are more familiar with printed materials and consider them more suitable for extended academic reading.

Table 6: Most Frequently Used Learning Material and Perceived Learning Effectiveness

Learning Material	Most Frequently Used (%)	Helps Learning More Effectively (%)
Printed textbook	191 (59.0)	217 (67.0)
E-book	30 (9.3)	22 (6.8)
Both equally	103 (31.8)	85 (26.2)
Total	324 (100.0)	324 (100.0)

Table 6 indicate that 59.0% of the respondents choose printed textbooks as the most used learning medium whereas only 9.3% of them mostly use e-books. Meanwhile, 31.8% of the respondents claimed to have used both learning materials in equal measure. A comparable pattern was observed in terms of perceived learning effectiveness. About two-thirds of the respondents (67.0%) considered printed textbooks were more useful in helping them learn compared with only 6.8% who viewed that e-books were more effective. Meanwhile, 26.2% found both learning materials equally useful. Overall, the findings suggest that although

students have greater access to digital learning resources, printed textbooks continue to be viewed as more helpful for understanding course content and supporting academic learning.

Table 7: Overall Preferred Learning Material

Learning Material	Frequency (n)	Percentage (%)
Printed textbook	254	78.4
E-book	37	11.4
No preference	33	10.2
Total	324	100.0

The overall choice of the respondents for learning resources is shown in Table 7. The results show that most of the respondents selected printed textbooks (78.4%) as the learning resource while just 11.4% favoured e-books. Another 10.2% responded that they had no preference for either of the two learning materials.

Table 8: Students' Preference Under Different Purchasing Scenarios

Scenario	Response	Frequency (n)	Percentage (%)
If price was not an issue, which textbook would you prefer most?	Printed textbook	266	82.1
	E-book	58	17.9
If a printed textbook was priced at RM70–RM80 with the option to resell, while an e-book was priced at RM60–RM70 with no resale option, which textbook would you choose?	Printed textbook (with resale option)	306	94.4
	E-book (without resale option)	18	5.6

Respondents' choices for textbooks under two hypothetical purchasing scenarios are shown in Table 8. When price was not an issue, 82.1% of the respondents preferred printed textbooks while 17.9% preferred e-books. When given the option between a printed textbook which costs RM70–RM80 and can be resold, and an e-book which costs RM60–RM70 but has no resale value, 94.4% of students chose the printed textbook while only 5.6% chose the e-book.

These results suggest that students' demand for printed textbooks is not limited to initial purchase price. The strong preference for printed textbooks in both scenarios suggests that students value their educational benefits, particularly for ease of reading and learning effectiveness. They also appreciate the long-term financial value of owning textbooks, such as the possibility of reselling them.

In conclusion, the statistics clearly show that printed textbooks remain the favoured study tool for UiTM Perak undergraduate students. This preference was consistently mirrored in the respondents stated learning methods, perceived learning efficacy, overall preference and purchasing decisions under diverse scenarios. The above findings immediately contribute to Research Objective 1 and set the stage for the upcoming analyses that will examine if perceived convenience, perceived utility, reading comfort, cost effectiveness and technology readiness account for students' preferences for learning materials.

Reliability Analysis

Before proceeding to the next research objectives, the internal consistency of the assessment instrument was assessed using Cronbach's Alpha to determine the extent to which the items assessing a construct provide consistent and reliable results (Hair et al., 2019).

Table 9: Reliability Analysis of the Study Constructs

Construct	Number of Items	Cronbach's Alpha	Reliability Level
Perceived Convenience	5	0.848	Good
Perceived Usefulness	5	0.939	Excellent
Reading Comfort	5	0.888	Good
Cost Effectiveness	5	0.927	Excellent
Technology Readiness	4	0.903	Excellent
Student Preference	5	0.961	Excellent

Table 9 shows that all constructs had good to outstanding reliability with Cronbach's Alpha values ranging from 0.848 to 0.961 which were above the recommended criterion of 0.70 (George & Mallery, 2020). In addition, the corrected item-total correlations for all items above the 0.30 threshold (recommended value) suggesting that all items contributed to the corresponding construct. Thus, all measurement items were preserved for the next analyses.

Descriptive Statistics of the Study Constructs

Descriptive statistics were calculated using the composite mean scores for each construct to establish the level of the research constructs. Mean scores were interpreted based on Best (1977) as: 1.00–2.33 a low level, 2.34–3.66 a moderate level, and 3.67–5.00 a high level.

As shown in Table 10, Reading Comfort had the highest mean score ($M = 4.327$, $SD = 0.644$) suggesting a high level, followed by Perceived Convenience ($M = 3.700$, $SD = 0.803$) which was also regarded as high. Conversely, Perceived Usefulness ($M = 3.238$, $SD = 0.832$), Cost Effectiveness ($M = 3.237$, $SD = 0.912$), Technology Readiness ($M = 3.451$, $SD = 0.796$) and Student Preference ($M = 2.683$, $SD = 0.963$) were all viewed as moderate.

Table 10: Descriptive Statistics of the Study Constructs

Construct	Mean	Standard Deviation	Interpretation
Perceived Convenience	3.700	0.803	High
Perceived Usefulness	3.238	0.832	Moderate
Reading Comfort	4.327	0.644	High
Cost Effectiveness	3.237	0.912	Moderate
Technology Readiness	3.451	0.796	Moderate
Student Preference	2.683	0.963	Moderate

Overall, respondents reported high levels of agreement with statements related to the Reading Comfort and Perceived Convenience constructs. Other constructs were perceived at a moderate level. These results immediately address the research objective 2, which is to find out the general level of each study construct and offer the basis for the forthcoming correlation and regression analyses.

Pearson Correlation Analysis

Pearson correlation analysis was performed to analyse the correlations between independent factors (Perceived Convenience, Perceived Usefulness, Reading Comfort, Cost Effectiveness, and Technology Readiness) and dependent variable (Student Preference). The Pearson correlation coefficient (r) measures the strength and direction of the linear link between two continuous variables. Cohen (1988) describes correlation values in the range of 0.10 to 0.29 as small, 0.30 to 0.49 as moderate, and 0.50 and above as representing substantial correlations. Table 11 gives the Pearson correlation coefficients.

Table 11: Pearson Correlation Matrix of the Study Constructs

Variables	1	2	3	4	5	6
1. Perceived Convenience	1					
2. Perceived Usefulness	.757**	1				
3. Reading Comfort	-.146**	-.203**	1			
4. Cost Effectiveness	.699**	.649**	-.138*	1		
5. Technology Readiness	.613**	.683**	-.156**	.529**	1	
6. Student Preference	.673**	.755**	-.352**	.614**	.667**	1

Note. $p < .05^*$, $p < .01$.

As shown in Table 11, Student Preference was significantly correlated with all five independent variables. Perceived Usefulness demonstrated the strongest positive relationship with Student Preference ($r = .755$, $p < .001$), indicating that students who perceived learning materials as more useful tended to report stronger overall preferences for those learning materials. According to Cohen (1988), this represents a strong positive correlation.

Similarly, Perceived Convenience ($r = .673$, $p < .001$), Technology Readiness ($r = .667$, $p < .001$), and Cost Effectiveness ($r = .614$, $p < .001$) also exhibited strong positive correlations with Student Preference. These findings suggest that students' preferences are positively associated with perceptions of convenience, technological readiness, and the affordability of learning materials.

In contrast, Reading Comfort demonstrated a moderate negative correlation with Student Preference ($r = -.352$, $p < .001$). The direction of this relationship is likely attributable to the wording and orientation of the questionnaire items, as mentioned earlier Reading Comfort construct was measured using statements reflecting respondents' comfort with printed textbooks. This indicates that higher scores on Reading Comfort with printed textbooks were associated with lower preference scores for digital learning materials. This relationship will be examined further in the subsequent regression analysis.

The correlations among the independent variables ranged from $-.203$ to $.757$. The highest correlation was observed between Perceived Convenience and Perceived Usefulness ($r = .757$). Although this represents a strong relationship, it remains below the commonly accepted threshold of 0.80 , suggesting that severe multicollinearity is unlikely (Hair et al., 2019). Nevertheless, multicollinearity was further assessed using the Tolerance and Variance Inflation Factor (VIF) statistics during the multiple regression analysis.

Overall, the correlation analysis indicates that all five independent variables are significantly associated with Student Preference. These findings provide preliminary support for the subsequent multiple regression analysis, which identifies the relative contribution of each factor after controlling for the influence of the remaining variables.

Multiple Regression Analysis

Multiple linear regression analysis was performed to examine the influence of Perceived Convenience, Perceived Usefulness, Reading Comfort, Cost Effectiveness, and Technology Readiness on students' preference for printed textbooks and e-books. Prior to interpreting the regression model, the regression assumptions were assessed. The data were approximately normally distributed, while tolerance values ranged from 0.331 to 0.958 and VIF values ranged from 1.044 to 3.023 , indicating that multicollinearity was not a concern (Hair et al., 2019).

Model Summary

As shown in Table 12, the regression model demonstrated a strong fit ($R = 0.821$, $R^2 = 0.675$, Adjusted $R^2 = 0.670$), indicating that the five predictors collectively explained 67.5% of the variance in students' preference. According to Hair et al. (2019), this represents a strong predictive model for behavioural and social science research.

Table 12: Model Summary

Statistic	Value
R	0.821
R Square (R^2)	0.675
Adjusted R Square	0.670
Standard Error of the Estimate	0.554

The ANOVA as presented in Table 13 further confirmed that the model was statistically significant, $F(5,318) = 131.961$, $p < .001$, indicating that the model was suitable for predicting students' preference between printed textbooks and e-books.

Table 13: Analysis of Variance (ANOVA)

Source	F	Sig.
Regression Model	131.961	$< .001$

Regression Coefficients

Table 14 presents the regression coefficients for each predictor variable.

Table 14: Regression Coefficients

Predictor	B	β	t	p-value	Decision
Perceived Convenience	0.148	0.124	2.268	.024	Significant
Perceived Usefulness	0.433	0.374	6.730	< .001	Significant
Reading Comfort	-0.303	-0.203	-6.199	< .001	Significant
Cost Effectiveness	0.141	0.134	2.882	.004	Significant
Technology Readiness	0.282	0.233	5.201	< .001	Significant

Before interpreting the regression coefficients, it is important to note that higher scores for Perceived Convenience, Perceived Usefulness, Cost Effectiveness, Technology Readiness, and the Student Preference construct represent a stronger preference for e-books. In contrast, the Reading Comfort construct was intentionally measured in the opposite direction, whereby higher scores indicate greater comfort with printed textbooks. Consequently, a negative regression coefficient for Reading Comfort indicates that students who reported greater comfort with printed textbooks were less likely to prefer e-books.

As presented in Table 14, all five predictors significantly influenced students' preference ($p < .05$). Perceived Usefulness emerged as the strongest positive predictor ($\beta = 0.374$, $p < .001$), indicating that students who perceived e-books as more useful were more likely to prefer them. This finding underscores the importance of the perceived academic benefits of e-books in shaping students' learning material preferences.

Technology Readiness was the second strongest positive predictor ($\beta = 0.233$, $p < .001$), followed by Cost Effectiveness ($\beta = 0.134$, $p = .004$) and Perceived Convenience ($\beta = 0.124$, $p = .024$). Reading Comfort also significantly influenced students' preference, but in the opposite direction ($\beta = -0.203$, $p < .001$), indicating that students who were more comfortable reading printed textbooks were less likely to prefer e-books.

The overall regression results indicate that Perceived Usefulness was the strongest predictor of students' preference for e-books, followed by Technology Readiness, Reading Comfort, Cost Effectiveness, and Perceived Convenience. While the first four predictors positively influenced students' preference for e-books, Reading Comfort exhibited a significant negative influence, suggesting that greater comfort with printed textbooks reduced students' inclination to prefer e-books. These findings directly address Research Objective 3, demonstrating that students' learning material preferences are influenced by multiple interrelated factors.

Overall, the findings presented in this chapter successfully addressed all three research objectives of the study. The results indicate that although printed textbooks continue to be the preferred learning material among UiTM Perak students, students' preferences are also significantly influenced by their perceptions of usefulness, convenience, cost effectiveness, technology readiness, and reading comfort. These findings provide the empirical foundation for the discussion presented in the following chapter, where the results are interpreted in relation to previous studies, relevant theoretical perspectives, and the broader literature on students' learning material preferences.

Discussion of Findings

The present study explored the preferences of undergraduate accounting students toward printed textbooks and e-books and the effect of perceived convenience, perceived usefulness, reading comfort, cost effectiveness and technology readiness on their preferences. Overall, the results suggest that students do not choose learning materials only based on format but rather they take into account the functional benefits of e-books with the cognitive and experiential benefits of printed textbooks. This finding is consistent with previous studies suggesting that students increasingly use both printed and digital learning resources according to different academic purposes rather than demonstrating an exclusive preference for one format (Su, 2022; Chavali & Gundala, 2022; Amirtharaj et al., 2023). Consequently, the present study extends the Technology Acceptance Model (TAM) by demonstrating that students' learning material preferences are influenced not only by technology acceptance but also by the quality of the learning experience associated with different learning media.

The first research objective revealed that printed textbooks remain the preferred learning material among undergraduate accounting students despite the increasing availability of e-books. Students reported using printed textbooks more frequently, perceived them to be more effective for learning, and consistently preferred them even when price was not a consideration. This finding supports previous studies by Baron et al. (2017), Singer and Alexander (2017), Mizrahi et al. (2018), Johnston and Salaz (2019), and Amirtharaj et al. (2023), which consistently reported that printed textbooks remain the preferred medium for academic reading because they promote concentration, annotation, deeper comprehension, and long-term information retention. However, the findings differ slightly from those of Su (2022) and Divya and Haneefa (2020), who reported increasing acceptance of e-books among university students. One argument is the nature of accounting education which involves long hours of reading, calculations and frequent cross-referencing of learning material, hence printed textbooks are more favourable to successful learning. These findings indicate that institutions need to still provide paper and electronic books to meet the different educational demands of students.

The second research objective found that Reading Comfort was perceived at the highest mean score, followed by Perceived Convenience, while Perceived Usefulness, Cost Effectiveness and Technology Readiness were perceived at a moderate level. The prevalence of reading comfort supports earlier findings that print textbooks remain favourable for extended reading, note taking, and greater understanding (Baron et al., 2017; Singer & Alexander, 2017; Mizrahi et al., 2018; Johnston & Salaz, 2019). The high perceived convenience also reflects the flexibility and accessibility of e-books as students recognize the need of rapid reference and distance learning. Su (2022) and Chavali and Gundala (2022) revealed similar results, indicating that students increasingly use both printed textbooks and e-books for diverse academic reasons. These findings suggest that the instructors need to apply blended learning using printed textbooks for intensive study and e-books for additional reading and online learning activities.

The third research objective is the major contribution of this study in identifying the characteristics that influence students' learning material preferences. Among the five determinants, Perceived Usefulness was the strongest positive predictor, confirming the Technology Acceptance Model (Davis, 1989) and previous studies that indicated perceived usefulness as an important factor for educational technology adoption (Salloum & Shaalan, 2019; Mizher & Alwreikat, 2023; Feng et al., 2025). The results suggest that students will

embrace e-books if they clearly improve learning effectiveness rather than just because they are available in digital format. Therefore, universities should work to improve the pedagogical quality of e-books and to integrate them more effectively into teaching and learning activities. Technology Readiness, Cost Effectiveness and Perceived Convenience also had significant positive effects on students' preference for e-books. This is consistent with the findings of Ngafeeson and Sun (2015), Wong and Jeganathan (2020), Okuonghae et al. (2022), Chavali and Gundala (2022), and Su (2022), which highlighted the importance of digital skills, accessibility, affordability and flexibility in e-book adoption. In contrast, Reading Comfort was negatively associated with students' preference for e-books. This construct was purposely measured to represent comfort with printed textbooks, and hence the negative relationship means that students who are more comfortable with printed materials are less likely to prefer e-books. This study emphasizes the complimentary roles of the two learning modes and does not contradict the favourable impact of the other parameters. Mizrachi et al. (2018) and Amirtharaj et al. (2023) revealed similar patterns of behaviour and noted that students often combine physical textbooks and e-books according to different academic tasks. Hence, publishers and higher education institutions should consider hybrid learning solutions, such as bundled printed and digital textbooks or institution-wide e-book subscriptions, to optimize both learning efficacy and cost efficiency.

Overall, the findings show that students' choice of learning resources was influenced by several factors. For e-books, these included perceived usefulness, convenience, cost-effectiveness and technology readiness, while reading comfort was an important factor for printed textbooks. The study also extends the Technology Acceptance Model (TAM) by considering students' learning experiences alongside technology acceptance. The findings suggest that printed textbooks and e-books can be used together to support a more effective learning environment, rather than being viewed as competing resources.

Conclusion

This study examined undergraduate accounting students' preferences for printed textbooks and e-books. It also looked at the factors that influence their choice between the two formats in higher education. Thus, students' preferences for learning resources are determined by a trade-off between the functional benefits of e-books (e.g., their perceived usefulness, convenience, cost-effectiveness, and readiness for technology) and the experiential benefits of printed textbooks, particularly reading comfort. The findings of this study expand the applicability of the Technology adoption Model (TAM) in that the adoption of technology in the educational context does not rely solely on the qualities of the technology but rather on the quality of the learning experience. However, the results should be evaluated in light of various limitations. The study was a cross-sectional survey of undergraduate accounting students from a single campus of UiTM and employed a convenience sample approach. The use of convenience sampling may restrict the generalizability of the findings to other disciplines, institutions or educational situations. Hence, future study should include recruiting students from more than one university and academic discipline, using probability sampling approaches where practical and examining other variables that may influence students' choice of learning material. The overall conclusion from the study is that printed textbooks and e-books should be considered as complementing rather than competing learning materials that can help educators, higher education institutions and publishers create more balanced and student-centred learning environments.

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