

THE USE OF TECHNOLOGY IN STUDENT FILE AND DOCUMENT MANAGEMENT

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Abstract: *The use of technology in the modern era for file and document management has become an essential part of students' academic lives, particularly for handling course notes, assignments, and other educational materials. However, it also presents challenges in ensuring that documents are well-organized, easily accessible, and protected from loss. This study examines the extent of technology usage in students' file and document management, focusing on various modern storage applications and their role in improving document organization. The objective is to identify the types of documents that frequently pose difficulties for students and to assess their proficiency in using technological applications to enhance the efficiency of academic document management. A quantitative research design was employed, involving 108 students from various academic departments and semesters. Data were collected through a self-developed questionnaire that was carefully reviewed for validity and tested for reliability using Cronbach's Alpha, and the responses were analysed using descriptive statistics. The findings indicate that multimedia files, particularly video and audio recordings, are the most challenging type of document for students to manage and store properly, with 42.6% of respondents reporting difficulties, mainly due to large file sizes, diverse formats, and storage requirements. Despite these challenges, students demonstrated high proficiency in using commonly adopted technologies such as cloud storage platforms, word processing applications, and digital communication tools for storing, creating, and sharing academic documents effectively. Technology use in file management was found to enhance efficiency, improve accessibility to learning materials, reduce the risk of document loss, and support more systematic and organized document management. However, the findings also highlight a need for targeted training and practical guidance to strengthen students' skills in managing complex digital documents. Additionally, fostering digital literacy and providing hands-on workshops can empower students to overcome technical challenges and optimize the use of available tools, while future research could explore the integration of advanced file management systems and collaborative platforms to further enhance students' academic productivity and organizational skills.*

Keywords: *Technology Usage, File Management, Document Management*

Introduction

Today, technology plays a crucial role in education, particularly in managing files and documents to support effective learning. Digital tools enable students to store, access, and organise academic materials more efficiently than traditional paper-based methods, fostering independence and ensuring structured, secure record keeping (Parmeen and Ramzan, 2024).

Ramya and Rajeswari (2023) pointed out that accessibility is significantly enhanced through cloud-based applications such as Google Drive and Microsoft OneDrive, which provide reliable storage and allow documents to be retrieved at any time with an internet connection. These systems improve efficiency and reduce the risk of data loss. Technology also facilitates collaboration. Platforms such as Google Docs and Microsoft 365 allow multiple users to edit documents simultaneously, improving group work, accelerating task completion, and promoting interactive discussion. Moreover, digital systems contribute to sustainability by reducing paper usage, thereby supporting environmental conservation efforts (Ali, 2021). Search functions further streamline document retrieval, saving time and effort.

Al-Ansi et al., (2021) mentioned that despite these advantages, many students still face challenges in effectively utilising digital tools due to limited knowledge or skills. This study, therefore, examines students' proficiency in managing files and documents using technological applications to identify strategies to optimise technology use in academic tasks.

Literature Review

This literature review discusses three main aspects related to the use of technology in student file and document management, namely technology usage, file management, and document management.

Technology Usage

The integration of digital technologies in higher education has transformed the way students manage academic information and learning materials. Digital platforms such as cloud storage systems, collaborative applications, and online document tools provide students with greater flexibility in storing, accessing, and sharing academic resources. The increasing reliance on digital learning environments has also positioned digital literacy as an essential competency for students in higher education institutions (Georgopoulou, 2025; Ramdana et al., 2026).

Previous studies indicate that digital technologies can improve students' academic productivity and learning efficiency when used appropriately. Collaborative digital platforms enable students to coordinate assignments, exchange information, and engage in real-time interaction during academic activities. These technologies also support independent learning and information accessibility, particularly in technology-mediated learning environments (Wider, 2026; Alruthaya et al., 2021).

However, the effectiveness of technology usage is strongly influenced by students' digital competencies and management practices. Although university students are frequently exposed to digital technologies, many still lack the ability to utilise these tools systematically for academic purposes. Georgopoulou (2025) reported that students generally demonstrate confidence in basic digital activities but experience limitations in applying digital tools critically and effectively within academic contexts.

Similarly, recent studies emphasise that technological access alone does not guarantee effective academic management without adequate digital literacy and organisational skills (Ramdana et al., 2026).

File Management

Effective file management is essential in supporting students' academic organisation and productivity. Digital file management systems allow students to categorise, retrieve, and organise academic materials more efficiently through folders, tagging systems, and search functions. Proper file management practices can reduce retrieval difficulties, minimise document duplication, and improve academic workflow management (Dinneen & Julien, 2021).

The transition from physical to digital storage has also increased flexibility and accessibility in academic environments. Students are able to access academic files across multiple devices and locations, enabling continuous learning and collaborative academic activities. Cloud-based technologies further support information sharing and collaborative document editing among students and educators (Adamu & Abdulrahman, 2025).

Despite these advantages, previous studies suggest that many students still encounter difficulties in maintaining systematic file management practices. Inconsistent file naming, weak folder organisation, and limited understanding of digital storage strategies may contribute to inefficient retrieval processes and poor academic organisation. Dinneen and Julien (2021) emphasised that file management remains a complex and often unsupported activity despite the widespread use of digital technologies. This indicates that students' actual file management behaviour requires greater attention within higher education research.

Document Management

Document management involves the creation, editing, storage, and sharing of academic documents within digital environments. Digital document systems and scanning applications allow students to convert physical documents into digital formats, thereby improving accessibility and reducing the risk of document loss. These technologies also support collaborative learning by enabling real-time editing and information sharing among students and educators (Wider, 2026).

Effective document management practices contribute to better organisation of academic materials and smoother coordination of assignments and group projects. Students who possess stronger digital competencies are more likely to manage documents systematically and retrieve information efficiently during academic activities. Recent research highlights that digital literacy competencies play a significant role in supporting students' engagement with digital academic resources and collaborative learning practices (Ridzuan & Sahid, 2025).

Nevertheless, many previous studies focus primarily on the technical features of digital systems rather than students' actual experiences and behaviours in managing academic documents. Existing literature also tends to discuss digital technologies broadly without specifically examining how students organise and maintain digital academic materials in higher education settings. Therefore, there remains a need to better understand students' proficiency, challenges,

and management practices in using digital document technologies for academic purposes (Georgopoulou, 2025; Ramdana et al., 2026).

Problem Statement

Despite the increasing integration of digital technologies in higher education, many students still experience difficulties in managing academic files and documents effectively. Previous studies have largely focused on the availability and adoption of digital tools; however, limited attention has been given to students' actual proficiency and challenges in applying these technologies within academic tasks. In practice, students often encounter issues related to file organisation, document formatting, version control, and collaborative editing, which may reduce the efficiency of academic work and information retrieval.

In addition, although cloud-based platforms and digital document applications are widely accessible, students' ability to utilise these tools systematically remains inconsistent. The lack of practical digital management skills may contribute to file misplacement, duplication of documents, and ineffective document coordination during academic activities. Existing research also tends to emphasise general digital literacy rather than specifically examining file and document management practices among students in higher education settings.

Therefore, this study aims to examine students' proficiency and challenges in using file and document management technologies for academic purposes. By focusing on students' experiences and practices, the study seeks to provide a clearer understanding of current digital management competencies and identify areas that require further improvement in educational support and training.

Objectives

Specifically, this study aims to:

1. To identify the types of documents that frequently cause challenges for students in terms of organisation and storage.
2. To evaluate students' proficiency in managing files and documents through technological applications to improve efficiency.

Methodology

This study adopted a quantitative survey approach involving 108 students from Politeknik Mersing, Johor. The primary research instrument was a self-developed questionnaire designed using a nominal scale. The instrument was carefully reviewed to ensure validity and reliability. The reliability of the questionnaire items was evaluated using Cronbach's alpha to measure internal consistency. The collected data were analysed descriptively using statistical techniques to identify trends, challenges, and proficiency levels in students' use of technology for file and document management.

Data Analysis and Discussion

Demographic Background of Respondents

Table 1: Demographics of Respondents

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	37	34.3%
	Female	71	65.7%
Department	JP	49	45.4%
	JKE	6	5.6%
	JTMK	53	49.1%
Semester	1	2	1.9%
	2	69	63.9%
	3	5	4.6%
	4	21	19.4%
	5	11	10.2%
	6	2	1.9%
CGPA (HPMN)	1.00 and below	0	0%
	1.01 - 2.00	0	0%
	2.01 - 3.00	10	9.3%
	3.01 - 4.00	96	88.9%
	Semester 1 (No CGPA yet)	2	1.9%
Parents' Income	RM1,000 - RM4,849	78	72.2%
	RM4,850 - RM10,959	18	16.7%
	RM10,960 and above	12	11.1%

Source: Data obtained from a self-administered questionnaire on students' document management difficulties.

This study employed a quantitative descriptive survey design to examine students' proficiency and challenges in managing files and documents using digital technologies. The quantitative approach was considered appropriate because the study aimed to obtain measurable data regarding students' experiences, practices, and levels of proficiency in using file and document management applications within academic settings.

The respondents consisted of 108 students from Politeknik Mersing Johor, involving students from the Department of Commerce (JP), Department of Information and Communication Technology (JTMK), and Department of Electrical Engineering (JKE). The respondents were selected using convenience sampling because the participants were readily accessible and actively involved in academic activities requiring digital document management. This sampling approach was suitable for obtaining preliminary insights into students' digital management practices within the institutional context.

Data were collected through a self-administered questionnaire distributed online using Google Forms. The questionnaire consisted of three sections. Section A collected respondents' demographic information, including gender, department, semester of study, CGPA, and parents' income. Section B examined the types of documents that students commonly faced

difficulties in managing and storing properly. Section C measured students' proficiency in using various technologies and applications for file and document management purposes. The instrument utilised a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. Unlike a nominal scale, the Likert-type scale allows the calculation of mean scores and standard deviations to measure respondents' levels of agreement and proficiency. The interpretation of mean scores was adapted as follows: 1.00–2.33 = Low, 2.34–3.66 = Moderate, and 3.67–5.00 = High.

Before the actual data collection, a pilot test was conducted to determine the reliability of the questionnaire items. The reliability analysis using Cronbach's Alpha produced a value of 0.89, indicating that the instrument demonstrated high internal consistency and was suitable for the study. According to Hair et al. (2019), Cronbach's Alpha values above 0.70 indicate acceptable reliability for research instruments.

The collected data were analysed using the Statistical Package for the Social Sciences (SPSS) version 27. Descriptive statistical analyses such as frequency, percentage, mean, and standard deviation were used to interpret respondents' demographic backgrounds, document management difficulties, and proficiency levels in using digital technologies for file and document management.

Analysis of Research Findings

Analysis of document types that students often face difficulties in managing and storing properly among students at *Politeknik Mersing Johor*.

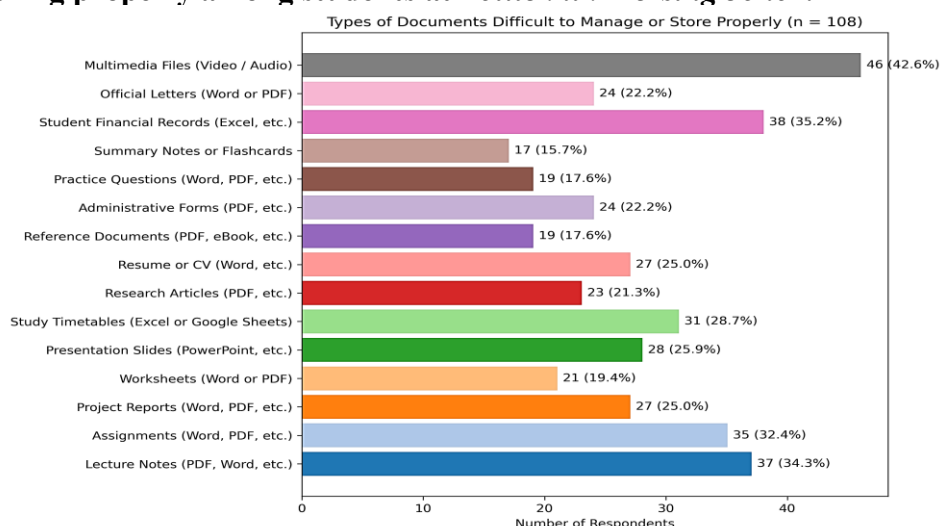


Figure 1: Types of Documents That Students Often Face Difficulties in Managing and Storing Properly

The analysis of the data presented in Figure 1 presents the types of documents that students frequently experience difficulties in managing and storing properly. The findings indicate that multimedia files, including video and audio recordings, were the most challenging document type, with 42.6% of respondents reporting difficulties. This may be associated with the larger storage capacity required, multiple file formats, and the increasing use of multimedia materials in online and blended learning environments. Managing multimedia files may therefore require

higher levels of digital organisation and storage management skills compared to text-based documents.

Student financial records represented the second highest category (35.2%), followed by lecture notes in PDF or Word format (34.3%) and assignments (32.4%). These findings suggest that documents frequently used for academic and administrative purposes are more likely to create management difficulties due to continuous access, updating, and retrieval requirements throughout the semester. The findings also indicate that students may face challenges in organising important academic documents systematically within digital storage systems.

Moderate difficulty levels were observed for study timetables (28.7%), presentation slides (25.9%), project reports (25.0%), and resumes or curriculum vitae (25.0%). These documents are generally used periodically and involve multiple versions or revisions, which may contribute to difficulties in file organisation and retrieval. Administrative forms and official letters (22.2%), research articles (21.3%), and worksheets (19.4%) also recorded moderate levels of difficulty, reflecting occasional rather than continuous usage.

In contrast, reference materials and practice questions (17.6%), as well as summary notes or flashcards (15.7%), were identified as the least problematic documents to manage. These materials are generally shorter, less complex, and often organised according to students' personal learning preferences, making them easier to store and retrieve when needed.

Overall, the findings demonstrate that students experience greater difficulty in managing documents characterised by larger file sizes, higher usage frequency, and more complex organisational requirements. The results suggest that students may benefit from improved digital file management strategies, particularly for handling multimedia materials and academically important documents that require systematic storage and retrieval practices.

The level of proficiency in managing files or documents using technology or applications in file and document management.

Table 2: Analysis Results from SPSS

Item	MIN	S.D	Level
Google Drive, Microsoft OneDrive, or Dropbox for storing and accessing academic files.	4.056	0.841	High
Google Docs, Microsoft Word, or WPS Office for writing and editing academic documents.	4.028	0.942	High
CamScanner or Adobe Scan to scan physical documents and store them digitally.	3.259	0.900	Moderate
Adobe Acrobat Reader or Foxit Reader to read, edit, or manage documents in PDF format.	3.083	0.939	Moderate
Notion, Evernote, or Microsoft OneNote to organize and manage notes related to academic documents.	2.852	0.984	Low
Trello or Asana to organize tasks and arrange files related to group projects.	3.565	0.930	Moderate
Google Sheets or Microsoft Excel to organize data or create schedules related to academic documents.	3.111	0.950	Moderate

Slack or Microsoft Teams to share files and documents with colleagues.	4.102	0.864	High
iCloud Drive or Google Photos to store academic-related documents or multimedia files.	2.880	1.030	Low
Zoho Docs or Quip for online collaboration and document sharing.	2.880	1.030	Low

Table 2 presents students' levels of proficiency in using various technologies and applications for file and document management purposes. The findings indicate that students demonstrated varying levels of proficiency depending on the type and function of the applications used.

The highest mean score was recorded for Slack or Microsoft Teams used for sharing files and documents with colleagues ($M = 4.102$, $SD = 0.864$), indicating a high level of proficiency in digital collaboration and communication tools. This was followed closely by cloud storage applications such as Google Drive, Microsoft OneDrive, and Dropbox for storing and accessing academic files ($M = 4.056$, $SD = 0.841$), as well as word-processing applications including Google Docs, Microsoft Word, and WPS Office for writing and editing academic documents ($M = 4.028$, $SD = 0.942$). These findings suggest that students are generally more competent in using technologies that are frequently integrated into their daily academic activities, particularly for document creation, storage, and communication purposes.

Moderate levels of proficiency were identified for applications related to document digitisation, task organisation, and data management. Trello or Asana, used for organising tasks and managing files related to group projects, recorded a mean score of 3.565 ($SD = 0.930$), while CamScanner or Adobe Scan, used for scanning physical documents, obtained a mean score of 3.259 ($SD = 0.900$). Similarly, Google Sheets or Microsoft Excel for organising data and creating schedules showed a moderate proficiency level ($M = 3.111$, $SD = 0.950$), together with PDF management applications such as Adobe Acrobat Reader or Foxit Reader ($M = 3.083$, $SD = 0.939$). These findings may indicate that students possess basic operational skills in using these applications but may not fully utilise their advanced features for academic management purposes.

Lower proficiency levels were reported for specialised applications such as Notion, Evernote, or Microsoft OneNote for organising notes related to academic documents ($M = 2.852$, $SD = 0.984$). Similarly, iCloud Drive or Google Photos for storing academic-related multimedia files and platforms such as Zoho Docs or Quip for online collaboration both recorded low mean scores ($M = 2.880$, $SD = 1.030$). The lower proficiency levels may reflect limited exposure, lack of formal training, or lower integration of these applications within students' academic routines.

Overall, the findings demonstrate that students are generally more proficient in using commonly utilised digital platforms that directly support communication, document preparation, and cloud storage. However, lower proficiency levels in specialised productivity and organisational applications suggest that students may require additional guidance and exposure to broaden their digital file and document management competencies. These findings also indicate that familiarity and frequency of usage play an important role in influencing students' technological proficiency within academic environments.

The findings of this study are relevant to the growing emphasis on digital learning and technology integration in higher education institutions. As academic activities increasingly rely on digital platforms, students are expected to possess effective file and document management skills to support learning, collaboration, and information organisation. The results suggest that educational institutions should provide continuous support, practical training, and digital literacy programmes to help students improve their competencies in using both general and specialised digital applications.

Conclusion

Technology plays an essential role in supporting students' academic activities by enabling systematic organisation, improved accessibility, and enhanced data security. The findings reveal that students are generally proficient in commonly used applications related to document storage, editing, and collaboration. However, challenges remain when using less familiar or specialised tools. Educational institutions should provide targeted training and practical workshops to enhance students' digital document management skills. Integrating various applications into coursework can offer hands-on experience and improve confidence. With adequate support, students can develop comprehensive digital competencies that enhance academic performance and prepare them for professional environments in an increasingly digital world.

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