

Digital Hoarding Behavior: A Theoretical, Contextual, and Methodological Review

Pushpa¹, Dr. Ankita Mishra²

¹Research Scholar, Department of Humanities and Social Sciences, Jaypee Institute of Information Technology, India

²Assistant Professor, Department of Humanities and Social Sciences, Jaypee Institute of Information Technology, India

Abstract

Digital hoarding refers to the excessive collection of digital artefacts and a persistent refusal to delete any stored information. It is a new-age behavioral challenge influenced by digital infrastructures. This research involves a systematic review of 60 Scopus-indexed articles published during 2001 to 2025. We used the Theory–Context–Methodology (TCM) framework. Through TCM framework, we analysed the pattern of publication of the literature concerning digital hoarding. The analysis shows that the literature is growing rapidly, as evidenced by the surge of publications in most recent years, with a peak in 2024. Furthermore, despite this increasing growth, the literature is fragmented, as there is a lack of consistency in theory, little contextualization, and methodological limitations. The results highlight thirteen theoretical frameworks among previous studies whereby psychological mechanisms, affordances and organizational aspects have insufficient connections. Most existing evidence comes from samples in universities, and with cross-sectional survey design we cannot view digital hoarding as a longitudinal behavioral process. Future research should must develop interdisciplinary theoretical models, include diverse populations from organizational and healthcare settings, as well as use longitudinal designs and objective digital behavioral measures to gain a clearer understanding of hoarding behavior in modern digital environments, intervention-based research. In addition, there should be a greater use of mixed-methods research. These should help in bettering theoretical development and in improving behavioral interventions.

Keywords: TCM Framework 1, Digital hoarding behaviours 2.

1. Introduction

Digital hoarding refers to when a user accumulates digital content and never gets rid of digital content that is no longer needed. Normal archiving or backup practice H may not cover this. 2026 Bi et al. Digital hoarding is different from physical hoarding because it takes place in a largely invisible space and does not often lead to an immediate social cost. People accumulate unnecessary digital content excessively because digital storage is cheap, no file has significant value and there is not much social pressure to do so. When the storage capacity keeps on increasing, this behavior can prove to be troublesome. The data has shown that 83% of organizational decision-makers said their organization are experiencing digital data hoarding N. Bravo-Adasme et al., 2025. The patterns of behaviour associated with digital hoarding where a person cannot delete digital content, collect excessive files and have

digital clutter have characteristics of a behavioural disorder (Sedera et al., 2022). Research reveals that digital hoarding exists among various populations. University students often keep unnecessary files in large volumes (Noorrizqyka et al., 2026) and nurses usually keep too many text files. Moreover, a substantial 84.4% of students are involved in digital hoarding behaviours (Hussien et al. 2023). Digital hoarding is not just confined to students but often seen amongst the middle-aged teachers (Aurora et al, 2026). According to qualitative interviews with university students, the reasons for keeping digital files are diverse. These persons do so out of a feeling of attachment, future usefulness, and personal significance. (Noorrizqyka et al., 2026) One key psychological factor driving digital hoarding is the fear of losing valuable information. People save files because they think they may need it in the future or because they attach emotional importance to digital things like photographs and videos. The digital collections owned by many users also become part of their identity. Further, the phenomena of procrastination and decision fatigue make it increasingly laborious to review and delete copious volumes of files, fueling digital hoarding behavior (Sedera et al, 2022). Fearing the loss of a digital file increases the chances of digital hoarding. The more cluttered we get in the digital world, the less we believe we can organize our files, resulting in increased anxiety and file avoidance and deletion (Kurtça, 2025). As per the findings of Tuğtekin (2022), IT anxiety strengthens this behavior while having IT self-efficacy reduces managing digital content and digital hoarders. In education and workplace environments, digital clutter is associated with a variety of detriment. According to a study conducted in 2025, digital hoarding negatively impacted the academic performance, learning abilities and grades of university students. In work settings, the over-accumulation of digital items leads to less innovative performance and reduced productivity (Sun et al., 2026). Growing clutter in digital spaces adds stress, hampers efficiency, and makes managing digital information difficult. Substantial accumulation can impede device use, with anxiety linked more strongly to it than depression, implying distinct psychological processes influencing these mental health outcomes (Li et al., 2026). Age-related variances have also been noticed whereby younger users tend to create new accounts when storage is low while middle-aged users are likely to buy additional storage capacity (Huang et al. 2024). Overall, the article offers an interdisciplinary composition of existing theoretical, contextual, and methodological contributions to research on the Digital Hoarding, a relatively new academic field. A deeper understanding of the TCM framework can be used to assess how digital hoarding behavior are conceptualized, studied and explained. This systematic review analyses the most significant theoretical frameworks that currently underpin our understanding of digital hoarding, while also suggesting future theoretical integrations. In addition, the results offer directions that can enhance practical knowledge on clinical assessment, organizational management, and intervention development.

The research questions in the article concern are:

RQ 1: Which theories, contexts and methodologies are associated with Digital Hoarding Behavior research?

Literature reviews

The conceptual evolution of data accumulation vs digital hoarding

The shift towards digital means has hugely escalated the amounts of digital information people create and store. At first, people considered this growth a normal part of using technology. Now, scientists decided digital hoarding is distinct from just hoarding data. Digital hoarding is when a person keeps a lot of digital content, they do not need and experiences anxiety when deleting them (Sedera et al. 2022).

The expansion of one's digital files is related to data accumulation while emotional attachment and viewing one's digital possessions as an extension of the self refers to digital hoarding (Bi et al., 2026). Digital hoarding appears to be very multidisciplinary according to the thematic analysis. Most of the originates from Computer Science, Social Sciences, and Psychology. The studying of digital hoarding asks technological, behavioral, and psychological disciplines to come together. In addition, leading academic figures, particularly field (Neave, N. & Sillence, E.) have had a strong influence on the intellectual development of the area. Most digital hoarding research focuses on higher education and work office context. The most studied populations are university students, teacher candidates, and office workers (Bravo-Adasme et al., 2025; Kurtça, 2025; Sun et al., 2026). According to Sedera et al. (2022) and Tuğtekin (2022), most of the studies examine the retention of digital content from a psychological perspective using attachment theory and big five personality theory. Quantitative, cross-sectional survey designs are mainly employed in the methodological landscape of research on digital hoarding (Hussien et al., 2023; Liu & Liu, 2024). Many studies use convenience sampling to fill their sampling. And the technique used to analyse the data collected is descriptive statistics, correlation, regression, and SEM (Aurora & Hastuti, 2026; Sun et al., 2026).

Behavioral Principles and Institutional Outcomes.

Studies indicate that psychological triggers can lead to the development of maladaptive behavioral patterns that constitute digital hoarding. Huang & Chen (2024) and Liu et al. (2023) assert that low-cost or free cloud storage can lead to FoMO or hyper-information overload from one site or another, and the emotional dependence on digital content. Such factors lead to having unnecessary/duplicate files, rarely reviewing files, and underutilizing digital organization tools (Agarwal et al., 2024; Jia et al., 2025; Noorizyky et al., 2026). People consider digital hoarding to be harmless. However, it carries psychological, academic, and organisational consequences. It is linked to increased anxiety, stress, and mental fatigue levels (Hussien et al., 2023; Tuğtekin, 2022). In educational settings, an accumulation of digital materials can interfere with academic performance and increase the likelihood of academic burnout (Bravo-Adasme et al., 2025). In workplaces, it creates technostress, lowers employee productivity, and hinders innovative performance (Sedera et al., 2022; Sun et al., 2026).

The phenomenon of digital hoarding has attracted considerable scholarly attention lately; however, existing research gaps remain significant obstacles to deeper understanding. The main disadvantage of this approach is that it uses convenience samples for cross-sectional quantitative studies (Kurtça, 2025; Liu and Liu, 2024). Despite their utility to an extent, they do not reveal the longitudinal evolution of digital hoarding phenomena. Neither do they provide convincing evidence about variations by culture, occupation, age, and so on. In addition, past research has tended to identify the outcomes of digital hoarding. Cognitive overload (too much information), stress and impaired functioning, and several other ones were among them. More research is required to assess how technological solutions, such as AI based digital management systems, as well as organisational policies, can enhance health practices.

Research on digital hoarding is becoming more complex and needing a more multidisciplinary approach. Hence, a structured analytical framework such as Theory–Context–Methodology (TCM) is needed to help researchers to understand the situation better. This study improves understanding of the varied literature and critical gaps that need addressing through a systematic review of approaches, models, contexts, and methodologies used in the literature. Researchers, academics, and organizations wanting to develop an evidence-based approach to managing digital clutter to minimize its psychological and

organizational effects, and to promote healthier engagement in their digital lives can use this comprehensive review for empirical insight.

Method

The Theory–Context–Methodology (TCM) framework efficiently synthesizes the studies of digital hoarding. It carefully examines the theoretical basis that explains digital hoarding, it is contextual explanations and outcomes, and finally methodological procedures by which researchers investigated these links. The model incorporates these dimensions to arrive at a holistic understanding of existing literature and identifies conceptual, contextual, and methodological gaps for future researchers (Paul and Benito, 2018; Paul et al., 2021, Lim and Paul, 2021).

Data collection

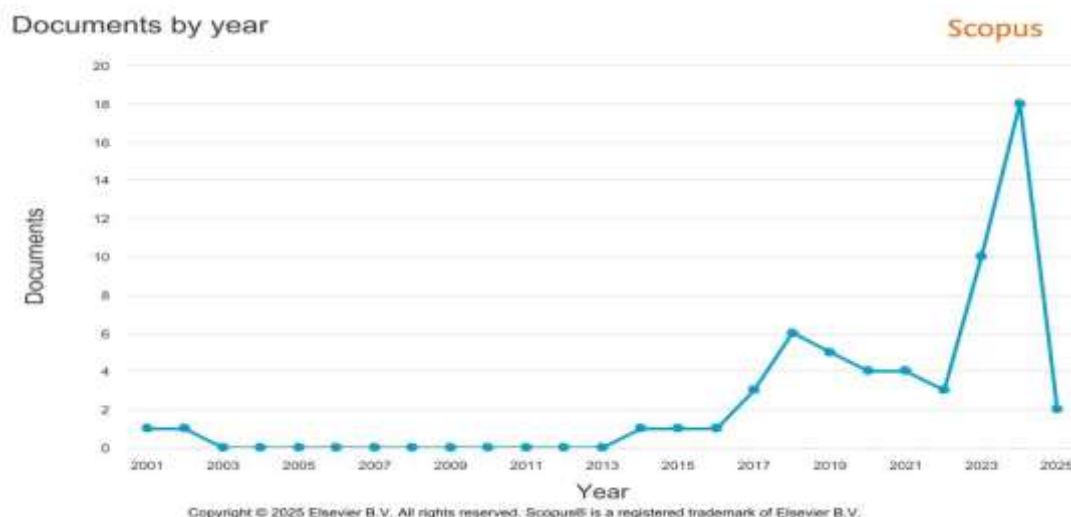
Scopus database was chosen as the primary source because of its extensive coverage and reliable citation metrics with easy export facilities which make it user-friendly for bibliometric studies. Studies were searched for until 2025. The systematic search strategy from relevant literature was developed with the use of boolean operators. The articles were selected from the keywords ‘digital hoarding,’ ‘hoarding behaviour,’ and ‘digital clutter and psychology’. This review was limited to peer-reviewed articles published in English that focused on digital hoarding and the psychology behind it. The records we retrieved were exported in CSV format, and duplicates were removed along with author name standardization. The final dataset of 60 articles selected for the screening and refining process.

Data analysis

The selected studies retrieved from the Scopus database were checked systematically by the Theory–Context–Methodology (TCM) framework. The retrieved articles were first placed in a spreadsheet in chronological order from 2001 to 2025 in the excel sheet. Following this, each article was reviewed and coded to extract essential information on theoretical foundations, contextual settings, and methodological designs. Hence, the coded data were synthesized to develop an overarching framework on the dominant theories, research contexts, and methodological trends in digital hoarding.

Results

Fig. 1 General details of selected articles

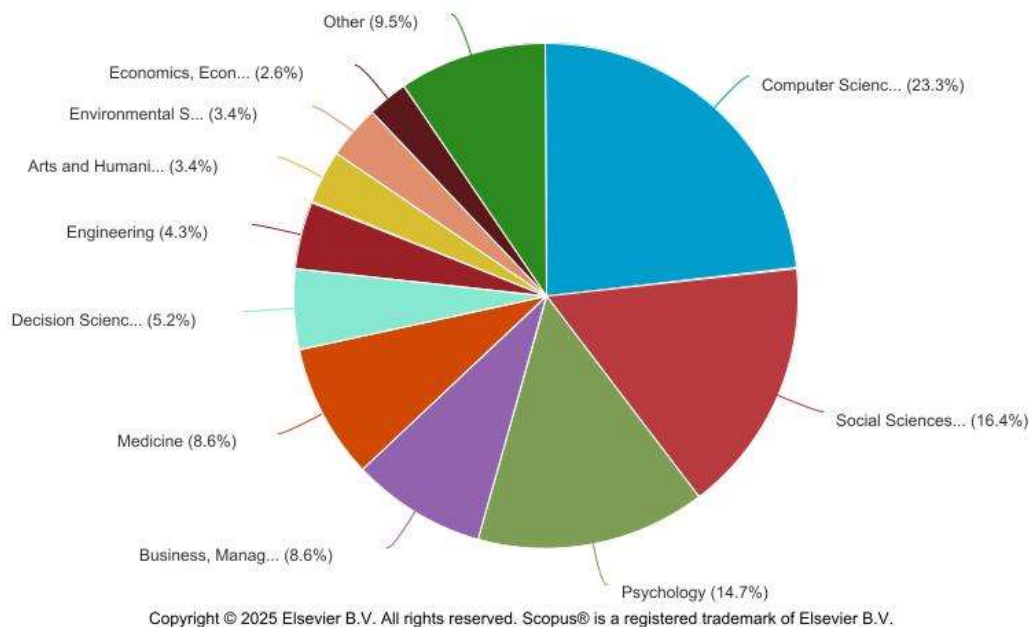


The year-wise distribution of documents on this research topic, is shown in Figure No. 1. The data range is from the year 2001 to 2025. The data shows that this research topic has received almost no academic document for more than a decade. For the first 10 to 12 years, it stayed at or near zero documents till the year 2014. Then there was some initial rise between 2017 to 2018. Further, it witnessed a slow and steady period of research till the year 2022. Finally, there was an increase in documents from the year 2023, which peaked sharply in the year 2024 at 18 documents. Further, the data shows that there is a drop in 2025, however, this drop is typical for recent indexations. Therefore, this trend shows that digital hoarding has rapidly undergone an evolution from a supposed niche issue to an urgent, highly active area of contemporary scholarly attention.

Fig. 2. Documents by subject area

Documents by subject area

Scopus



In Figure. 2, Digital hoarding research is the main focus of 2 studies across different subject domains. According to the findings, this area is interdisciplinary, with the highest contribution (23.3%) from computer science followed by Social Sciences (16.4%) and Psychology (14.7%). Over half of the total publications are concentrated in just three areas, signifying the dominant interest in directing a clearer understanding of digital hoarding behaviours. In addition, Business and Management (8.6%) and Medicine (8.6%), and Decision Sciences contributions low from Engineering, Arts and Humanities, Environmental Sciences and Economics. The areas distribution highlights that digital hoarding is more than just a technological issue. Also, it is more complex phenomenon involving psychological processes, human behaviour, organizational practices and information management.

Fig. 3. Documents by author

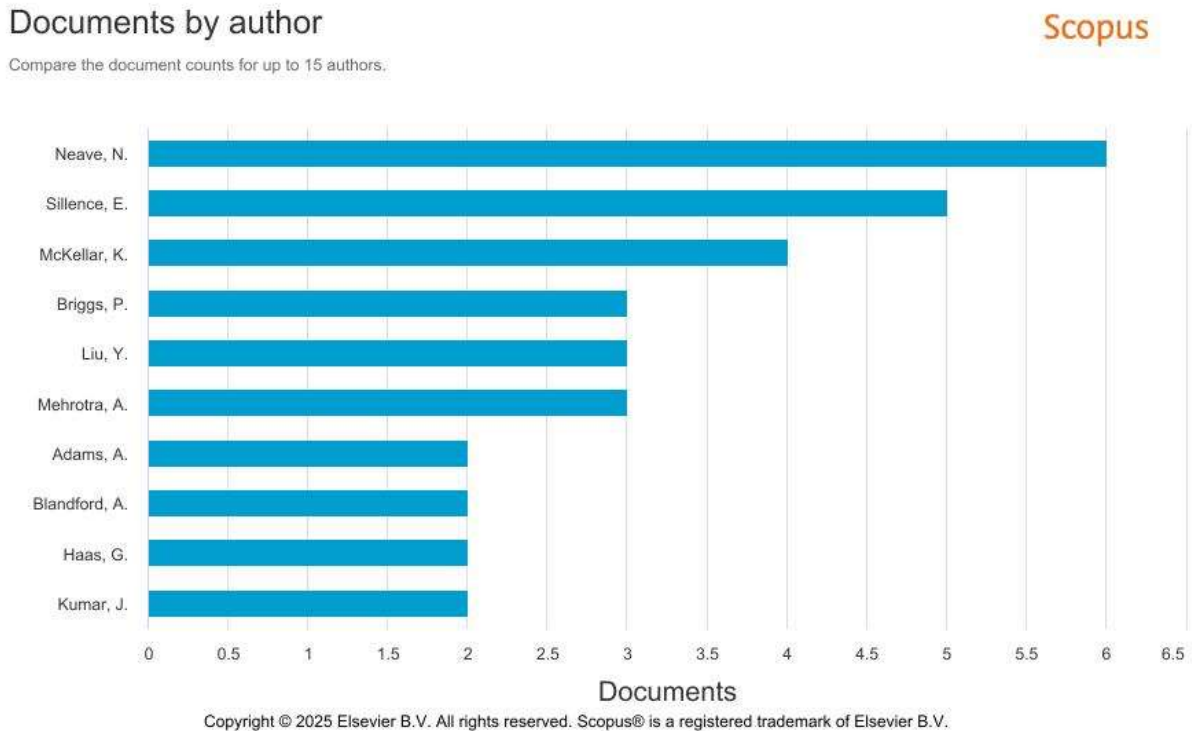


Figure. 3, highlights the leading authors who have written the most papers on digital hoarding indexed by Scopus. According to the findings, much of the literature is produced by a small group of main researchers. N. Neave has the highest number of publications in the dataset (6), followed closely by Sillence, E. 5 publications and McKellar, K. through 4 publications. Briggs, P., Liu, Y., and Mehrotra, A. are other key contributors with three documents each. Remaining authors listed has contributed 2 papers each. By identifying these authors, the leading academic experts and research groups in the world are revealed that are shaping the basic concepts, definitions, and theories in the field of digital hoarding.

Table No. 1 Theory

Theory	No. of articles
Regulatory Focus Theory	1
Proximal–Distal Framework	1
Job Demands–Resources (JD-R) Theory	1
Functional Alienation Framework	1
Self-Regulation / Self-Control	1
Motivation–Opportunity–Ability (MOA) Theory	1
Stimulus–Organism–Response (SOR) Model	1
Grounded Theory	
Life History Theory	1
Cognition–Affect–Conation(C-A-C) Framework	1
Attachment Theory	2
Big Five Personality Theory	2

Technology Acceptance/ Self-Efficacy 2
Perspective

In table no. 1, describes the various theoretical frameworks employed in the 17 studies between 2019 and 2026. Since most theories only appear once, this shows a widespread interest of researchers in the area, studying suggestive design, workplace stress, and psychology and many other important angles. Certain popular models, like Attachment Theory and the Big Five Personality Theory, are repeated multiple times to focus on human characteristics and emotional bonding. Moreover, some researchers, e.g. Sun, Fu, and Zhang (2026); Tuğtekin (2022) combine two different theories into one study to achieve a more thorough understanding of user behavior. In sum, the table acts as a map from which we can see that our current research uses a lot of a combination between human psychology and technology acceptance model.

Table No. 2 Context

Research Context	Population/Context/Sector/Discipline	No. of Articles
University / Higher Education	University students, teacher candidates, graduate students / Education	7
Teachers / Educational Professionals	School teachers, nursing teaching staff / Business & Management	2
Employees / Workplace	Employees, knowledge workers, organizational staff / Information Systems & Information Science	4
Cloud Storage Users	Cloud storage users / Healthcare	2
Social Media Users	Social media users, digital photo users / Psychology & Mental Health	2
Retail Consumers	Online retail consumers / Retail & Consumer Behavior	1
General Adult Population	General digital users	2
Healthcare Professionals	Nursing teaching staff / Healthcare	1

This table no. 2 shows, distribution into which the collection of research articles is divided depending on the group of subjects, industry, etc. Research into university and higher education settings is by far the most popular area of research. Seven of the articles examined involved university students as subjects. This group also included future teachers. The second on the list is workplace issues of office employees and knowledge workers, which four articles discuss. Most of the other research is small and evenly spaced out with one or two articles each dealing with social media users, cloud storage users, school teachers, online shoppers, healthcare staff, and the public. From the table, this research topic touches on various spheres of life but is primarily concerned with university and office personnel.

Table 3. Research Methodologies Used in Digital Hoarding Studies

Research Methodology	No. of Articles
Cross-sectional Survey	10
Qualitative Case Study	4
Mixed Methods	1
Conceptual / Theoretical Paper	3
Scale Development / Validation	2

This table presents various research methodologies that different authors have used in studying their topics. In a set of articles. The cross-sectional survey is by far the most widely used method, according to 10 different articles in which data was gathered from people at one point in time. The second most frequent approach is qualitative case study, applied in 4 articles to gain a deep understanding of specific cases. The papers that were fewer in number involved the construction and testing of new measurement tools, the writing of purely conceptual or theoretical ideas, and the use of multiple methods through mixed methods. Overall, the table data shows the current research is focused mainly on surveys and case studies to get answers.

3.1 Type of Data Used

Data Type	No. of Articles
Primary Quantitative Data	10
Primary Qualitative Data	4
Secondary / Literature-Based Data	2
Mixed Data (Qualitative + Quantitative)	1

The types of data authors gathered in their research papers and analysed are presented in the table no. 3.1, Most of the studies rely on primary quantitative data. In 10 articles primary quantitative data was collected. It is the collection of new numerical data like through surveying. The next most popular type was that of primary qualitative data. Four articles used this type of data to capture descriptive data (words). A few of the researches used secondary data which means that they reviewed the literature and past studies instead of gathering primary data from the participants. In the end, only one article employed a mixed-data approach, combining numerical facts and texts. In general, the data that lies at the core of this field of research is preferred to be fresh and numeric.

Table. 3.2 Sample Size Used in Digital Hoarding Studies

Authors (Year)	Sample	Population
Sedera et al. (2022)	304	Employees
Bravo-Adasme et al. (2025)	344	Higher education employees
Bravo-Adasme et al. (2025)	596	University students
Hussien et al. (2023)	180	Nursing teaching staff
Tuğtekin (2022)	402	College students
Kurtça (2025)	312	Teacher candidates
Aurora & Hastuti (2026)	295	Teachers

Huang & Chen (2024)	128	Cloud storage users
Noorrizqyka et al. (2026)	20	University students (qualitative)
Jia et al. (2025)	41	Humanities researchers
Agarwal et al. (2024)	30	Retail consumers
Dai et al. (2024)	35	Graduate students
Liu & Liu (2024)	1,145	Chinese college students
Liu et al. (2023)	1,003	Chinese youth
Sun et al. (2026)	421	SME employees

This is a table showing sample size and who was studied across fifteen research papers. Sample sizes range widely depending on the research type, from some with over 1,000 people to those with only 20 people. The biggest studies, like the Liu and Liu (2024) and Liu et al. (2023), examine huge samples using several over 1,000 Chinese students and youth using quantitative surveys. On the other hand, studies with the smallest sample sizes such as Noorrizqyka et al. (2026) study only 20-40 people to collect rich, descriptive data through interviews. The populations clearly displayed in the table exhibit a strong emphasis on education as most of the studies focus on college students, graduate students, teacher candidates, and school staff, the lesser on business employees and retail shoppers.

Table. 3.3 Statistical Analysis Techniques

Statistical Technique	No. of Articles
Structural Equation Modeling (SEM/PLS-SEM/AMOS)	3
Confirmatory Factor Analysis (CFA)	3
Exploratory Factor Analysis (EFA)	2
Correlation Analysis	4
Regression Analysis	3
Descriptive Statistics	15
Thematic Analysis	3
Grounded Theory	1

This table displays the statistical techniques employed by researchers to comprehend their data in fifteen studies, including mathematical and text-analysis methods. Almost all these studies used descriptive statistics to summarize their data, which includes percentages and average. For detailed analyses, several more sophisticated research uses correlation and regression analyses to find relations and trends between more variables. Many papers used advanced statistical models like Structural Equation Modelling and Factor Analysis to test complex relationships and check the accuracy of measurement tools. Some of the work used thematic analysis and grounded theory to locate commonalities that surfaced during the interviews and personal stories rather than attending to quantitative data. The table tells us that researchers use a healthy mix of basic summaries, advanced math formulas, and word-based analysis to interpret the findings.

3.4 Sampling Techniques

Sampling Technique	No. of Articles
Convenience Sampling	4

Purposive Sampling	3
Stratified Sampling	1
Random Sampling	2
Not Clearly Reported	2

The table illustrates the sampling techniques which the researchers used to select the participants of the study. Four of the articles relied on convenience sampling, in which participants were individuals who proved to be easy to access. Purposive sampling is the second most popular resource since it involves intentionally picking people that fit the reasons exactly and it is used in three articles. A couple of researchers adopted more structured ways of sampling, like random sampling and stratified sampling, to achieve more balanced and fairer groups of people. In closing, two of the articles did not clearly relay how they chose their participants. The findings in the table show that while the researchers do resort to some ways to find participants. However, the one the researchers are most heavily reliant on is the use of ease of access or very specific.

Discussion

The TCM framework, shows that digital hoarding research is changing from a largely unknown behavior to a highly recognized sociotechnical problem. While these data suggest rapid growth in scholarly attention, the theoretical landscape is very fragmented, composed of multiple frameworks that are poorly integrated. While Attachment Theory and the Big Five Personality Theory provide valuable insights towards building an understanding of emotional attachment and personality-based retention tendencies, there is a lack of coherent theoretical framework which restricts cumulative knowledge development. The literature review indicates that empirical studies are predominantly carried out amongst university populations. Meanwhile, the only workplace setting that faces serious operational and security threats owing to excessive accumulation of digital information is a firm or healthcare sector. And this only has not been properly addressed as per literature. In addition, due to the predominance of cross-sectional surveys, we know little about the changing behaviors of digital hoarding in technology and digital ecosystems. Future studies should refrain from conducting short-term quantitative measurement but rather, develop theoretical frameworks, use different populations, and conduct longitudinal and mixed-method approaches to better understand digital hoarding behaviors.

Theoretical Implications

The comprehensive research framework of this study bridges several critical gaps in the existing literature in a more evidence-based manner. To begin with, it addresses the high level of theoretical fragmentation within the field. The review identified 13 theoretical frameworks, 10 of which (77%) were used only once. Overall, this indicates a lack of theory. The current study seeks to address this limitation by bringing together technology-oriented perspectives (e.g. Technology Acceptance Perspective) together with socio-behavioural theories (e.g. Attachment Theory and Big Five Personality Theory) to offer a more comprehensive view.

Furthermore, the current study overcomes limitations faced by previous studies. Many of the existing studies used large student samples with the focus on college students (Liu & Liu, 2024, n = 1,145; Liu et al., 2023, n = 1,003). On the other hand, studies involving real consumers or professionals relied on very small samples (Agarwal et al., 2024, n = 30). On the contrary, the current study looks at decision makers

in real business or commercial settings, where decisions are made under actual organizational responsibility and operational pressure. This makes the findings more realistic and more applicable for practice.

This bibliometric paper makes a meaningful contribution to digital hoarding behaviour studies by reinforcing its theoretical, contextual and methodological foundations. By combining supporting theoretical perspectives, analysing digital hoarding within a real- world situations, and using analytical techniques, the paper provides a more comprehensive understanding of the pathway underlying digital hoarding behaviour. These key findings offer a valid foundation for future research to validate, replicate, refine and extend the establish model across different sample, cultural context and organizational settings.

Practical Implications

This paper suggests some practical guidance to technology developers, organizations and academicians in professional settings. The analysis showed that the importance of technology developers should combine psychological principles into their platform design to minimise digital clutter and improve user engagement. Organisation should support low- risk training environment in technology adaptations and supports traditional employee surveys with regular behavioural data to direct evidence-based management decisions.

limitations

The findings in this review cannot be generalised due to several limitations. Most existing studies have relied on cross-sectional surveys, which limits our understanding of digital hoarding as a dynamic behaviour that evolves over time. Moreover, the university student sample to a great extent makes the literature contextual and demographically biased owing to the lack of adult, organisational, and healthcare samples. Third, the area is not theoretically integrated as there are few frameworks and no lens. Also, the use of Scopus database only may have led to exclusion appropriate studies in regional journals; non-English publication; and special conference proceeding.

Future research directions

Future scholarship should pursue a wider research agenda to overcome the shortcomings found in the current digital hoarding literature. Researchers must not limit themselves to only using cross-sectional surveys, but should rather also incorporate longitudinal methods, digital ethnography, diary-based methods or objective behavioural indicators aimed at capturing what people actually do (i.e. patterns of digital accumulation) rather than relying on what they say they do (i.e. perception). Meanwhile, the field must expand its scope to include professional and institutional domains that generate an intensive data-protection impact and have a high level of regulation such as healthcare, corporate finance and public administration. In theory, future research should focus on framework integration, rather than theoretical proliferation, by integrating individual-level psychological explanations such as Attachment Theory with a system-level perspective such as the Job Demands–Resources framework. Through integrative models, one would get a better understanding of the way psychological predispositions, organisational pressures, and technological infrastructure combine to create and sustain digital hoarding behaviour.

Conclusion

In summary, the present study enhances understanding of digital hoarding through a comprehensive bibliometric and TCM-based review of the literature from 2001 – 2025. According to the findings, the field has undergone a transition from an emerging field and unclearly perceived consequence of digital growth to a complex sociotechnical phenomenon which is receiving rapidly expanding scholarly interest. Even so, the present research context continues to be marked by a lack of theoretical development, contextual narrowness, and method bias, mainly due to the reliance on cross-sectional methods. Overcoming these issues requires revolutionary insight at the integrated theoretical level that interconnects psychological processes, organisational demands and technological affordances. Going forward, we need to incorporate different organisations and cultural contexts and use longitudinal designs and digital behaviour indicators. This evolution will enable digital hoarding studies to shift from the descriptive analysis of individualistic behaviour toward an explanatory, predictive, and management framework capable of accounting for digital accumulation in current digital environments.

References

1. Adams, A., & Blandford, A. (2001). Digital libraries in a clinical setting: Friend or foe? Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2163, 213–224. https://doi.org/10.1007/3-540-44796-2_19
2. Adams, A., & Blandford, A. (2002). Acceptability of medical digital libraries. *Health Informatics Journal*, 8(2), 58–66. <https://doi.org/10.1177/146045820200800202>
3. Agarwal, R., Mehrotra, A., Pant, M. K., Alzeiby, E. A., & Vishnoi, S. K. (2024). Digital photo hoarding in an online retail context. An in-depth qualitative investigation of retail consumers. *Journal of Retailing and Consumer Services*, 78, 103729. <https://doi.org/10.1016/j.jretconser.2024.103729>
4. Ananda, J., Karunasena, G. G., & Pearson, D. (2023). Has the COVID-19 pandemic changed household food management and food waste behavior? A natural experiment using propensity score matching. *Journal of Environmental Management*, 328, 116887. <https://doi.org/10.1016/j.jenvman.2022.116887>
5. Dai, B., Zhang, P., & Wang, Y. (2024). The Antecedents and Consequences of Graduate Students' Academic Digital Hoarding Behavior—An Exploratory Research Based on Grounded Theory. *Journal of Modern Information*, 44(4), 53–65. <https://doi.org/10.3969/j.issn.1008-0821.2024.04.006>
6. Fried, D. (2014). Compulsive Hoarding: Psychopathologies of Print, Phenomenologies of Text. *Culture, Theory and Critique*, 55(3), 342–364. <https://doi.org/10.1080/14735784.2014.892768>
7. Frost, R. O., Steketee, G., & Tolin, D. F. (2015). Comorbidity in hoarding disorder. *Focus (San Francisco, Calif.)*, 13(2), 244–251.
8. Garea, S. S., Sauer, J. D., Hall, L. C., Williams, M. N., & Drummond, A. (2023). The potential relationship between loot box spending, problem gambling, and obsessive-compulsive gamers. *Journal of Behavioral Addictions*, 12(3), 733–743. <https://doi.org/10.1556/2006.2023.00038>
9. Hermer, E., Cauchoix, M., Chaine, A. S., & Morand-Ferron, J. (2018). Elevation-related difference in serial reversal learning ability in a nonscatter hoarding passerine. *Behavioral Ecology*, 29(4), 840–847. <https://doi.org/10.1093/beheco/ary067>

10. Hiranandani, S., Ipek, S. I., Wilhelm, S., & Greenberg, J. L. (2023). Digital mental health interventions for obsessive-compulsive and related disorders: A brief review of evidence-based interventions and future directions. **Journal of Obsessive-Compulsive and Related Disorders*, 36*, 100765. <https://doi.org/10.1016/j.jocrd.2022.100765>
11. Huang, Y.-T., & Chen, Y.-C. (2024). A Primer Study on Digital Hoarding Behavior in Cloud Storage. In **11th IEEE International Conference on Consumer Electronics - Taiwan, ICCE-Taiwan 2024** (pp. 31–32). <https://doi.org/10.1109/ICCE-Taiwan62264.2024.10674529>
12. Hyun, D., Jang, E., Lee, J., & Kim, T. (2024). Green Cloud: Supporting Sustainable Behavior by Helping Users Remove Unnecessary Photos from Cloud Storage Service. In *Conference on Human Factors in Computing Systems - Proceedings*. <https://doi.org/10.1145/3613905.3647968>
13. Jia, M., Zhao, Y. C., Zhang, X., & Wu, D. (2025). “That looks like something I would do”: understanding humanities researchers’ digital hoarding behaviors in digital scholarship. *Journal of Documentation*, 81(1), 24–55. <https://doi.org/10.1108/JD-01-2024-0004>
14. Karabatak, S., Alanoglu, M., & Karabatak, M. (2024). Examining the Relationship Between Digital Well-Being, Digital Hoarding, and Mobile Information Security Awareness with Association Rule. In **12th International Symposium on Digital Forensics and Security, ISDFS 2024**. <https://doi.org/10.1109/ISDFS60797.2024.10527242>
15. Kirk, C. P., & Rifkin, L. S. (2020). I’ll trade you diamonds for toilet paper: Consumer reacting, coping, and adapting behaviors in the COVID-19 pandemic. *Journal of Business Research*, 117, 124–131. <https://doi.org/10.1016/j.jbusres.2020.05.028>
16. Krawczyk, P., & Swiecicki, L. (2020). ICD-11 vs. ICD-10—A review of updates and novelties introduced in the latest version of the WHO International Classification of Diseases. *Psychiatria Polska*, 54(1), 7–20. <https://doi.org/10.12740/PP/103876>
17. Li, J.-B., Zhang, R., Wang, L.-X., & Dou, K. (2022). Chinese public’s panic buying at the beginning of the COVID-19 outbreak: The contribution of perceived risk, social media use, and connection with close others. *Current Psychology*, 41(11), 8157–8166. <https://doi.org/10.1007/s12144-021-02072-0>
18. Liu, G., Liu, C., & Yi, X. (2015). Effect of seed size of *Juglans mandshurica* on scatter hoarding by small rodents: Using radio telemetry technology. *Shengtai Xuebao*, 35(17), 5648–5653. <https://doi.org/10.5846/stxb201312293054>
19. Liu, Y., & Liu, Y. (2024). Hoarding knowledge or hoarding stress? Investigating the link between digital hoarding and cognitive failures among Chinese college students. *Frontiers in Psychology*, 15, 1518860. <https://doi.org/10.3389/fpsyg.2024.1518860>
20. Liu, Y., Chi, X., & Xin, X. (2023). Storing, Not Reading: Investigating the Link Between Upward Social Comparison via Social Media and Digital Hoarding Behavior in Chinese Youth. *Psychology Research and Behavior Management*, 16, 5209–5224. <https://doi.org/10.2147/PRBM.S441859>
21. Liu, Y., Liu, Y., & Feng, Y. (2024). From Clicks to Calm: Investigating the Link Between Mindfulness and Digital Hoarding Behavior Among Chinese Youth. *Psychology Research and Behavior Management*, 17, 3283–3297. <https://doi.org/10.2147/PRBM.S473523>
22. Luxon, A. M., Hamilton, C. E., Bates, S., & Chasson, G. S. (2019). Pinning our possessions: Associations between digital hoarding and symptoms of hoarding disorder. **Journal of Obsessive-Compulsive and Related Disorders*, 21*, 60–68. <https://doi.org/10.1016/j.jocrd.2018.12.007>

23. McKellar, K., Sillence, E., Neave, N., & Briggs, P. (2024). Digital accumulation behaviors and information management in the workplace: exploring the tensions between digital data hoarding, organizational culture, and policy. *Behaviour and Information Technology*, 43(6), 1206–1218. <https://doi.org/10.1080/0144929X.2023.2205970>
24. McLaughlin, K. A., Koenen, K. C., Hill, E. D., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2013). Trauma exposure and posttraumatic stress disorder in a national sample of adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52(8), 815–830. <https://doi.org/10.1016/j.jaac.2013.05.011>.
25. Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation* (4th ed.). John Wiley & Sons.
26. Mitra, S. (2024). Trends in Consumer Behavior Induced by COVID-19: Insights from India. In *Emerging Business Trends and Management Practices: Lessons from the Pandemic* (pp. 161–193). <https://doi.org/10.1201/9781003331353-8>
27. Neave, N., Briggs, P., McKellar, K., & Sillence, E. (2019). Digital hoarding behaviors: Measurement and evaluation. *Computers in Human Behavior*, 96, 72–77. <https://doi.org/10.1016/j.chb.2019.01.037>
28. Neave, N., McKellar, K., Sillence, E., & Briggs, P. (2019). Digital hoarding behaviors: Implications for cybersecurity. In *Cyber Influence and Cognitive Threats* (pp. 77–95). <https://doi.org/10.1016/B978-0-12-819204-7.00005-1>
29. Peck, J., & Shu, S. B. (2018). *Psychological Ownership and Consumer Behavior*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-77158-8>
30. Pianese, F., Signorini, M., & Sarkar, S. (2018). Small Transactions with Sustainable Incentives. In **2018 9th IFIP International Conference on New Technologies, Mobility and Security, NTMS 2018 - Proceedings** (Vol. 2018-January, pp. 1–5). <https://doi.org/10.1109/NTMS.2018.8328744>
31. Pinder, C., Beale, R., & Hendley, R. J. (2016). Zephyr: Exploring digital behavior change interventions to treat hoarding. In **Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct, MobileHCI 2016** (pp. 875–882). <https://doi.org/10.1145/2957265.2961838>
32. Richter, B., & Bokelmann, W. (2017). Explorative study about the analysis of storing, purchasing, and wasting food by using household diaries. *Resources, Conservation and Recycling*, 125, 181–187. <https://doi.org/10.1016/j.resconrec.2017.06.006>
33. Sandhu, N., Hussain, J., & Scott, J. M. (2024). Mediating agricultural entrepreneurship through embracing innovative technology: a tale from small rural enterprises in an emerging economy. *International Journal of Entrepreneurial Behaviour and Research*, 30(4), 1023–1040. <https://doi.org/10.1108/IJEBr-12-2022-1055>
34. Sedera, D., & Lokuge, S. (2018). Is digital hoarding a mental disorder? Development of a construct for digital hoarding for future IS research. In *International Conference on Information Systems 2018, ICIS 2018*.
35. Sedera, D., Lokuge, S., & Grover, V. (2022). Modern-day hoarding: A model for understanding and measuring digital hoarding. *Information and Management*, 59(8), 103700. <https://doi.org/10.1016/j.im.2022.103700>
36. Serenko, A., & Choo, C. W. (2019). Investigating knowledge sabotage behavior: The role of personality traits and co-worker competitiveness. In *Proceedings of the International Conference on*

- Intellectual Capital, Knowledge Management and Organisational Learning, ICICKM (Vol. 2019-December, pp. 3–11). <https://doi.org/10.34190/IKM.19.049>
37. Sharma, A., Zanolli, P., & Musunur, L. P. (2020). Drive-Through Robotics: Robotic Automation for Last Mile Distribution of Food and Essentials during Pandemics. *IEEE Access*, 8, 127190–127219. <https://doi.org/10.1109/ACCESS.2020.3007064>
38. Sillence, E., Dawson, J. A., Brown, R. D., McKellar, K., & Neave, N. (2023). Digital hoarding and personal use of digital data. *Human-Computer Interaction*. <https://doi.org/10.1080/07370024.2023.2293001>
39. Silva, L. E. N., Neto, M. B. G., da Rocha Grangeiro, R., & de Nadae, J. (2021). COVID-19 pandemic: Why does it matter for consumer research? *Revista Brasileira de Marketing*, 20(2), 352–378. <https://doi.org/10.5585/REMARK.V20I2.18677>
40. Skulmowski, A., & Standl, B. (2021). COVID-19 information fatigue? A case study of a German university website during two waves of the pandemic. *Human Behavior and Emerging Technologies*, 3(3), 350–356. <https://doi.org/10.1002/hbe2.260>
41. Su, C. (2020). Give or keep? A transactive memory approach to understanding knowledge hoarding on the organizational digital knowledge repository. *International Journal of Knowledge Management Studies*, 11(1), 41–58. <https://doi.org/10.1504/IJKMS.2020.105072>
42. Sweeten, G., Sillence, E., & Neave, N. (2018). Digital hoarding behaviors: Underlying motivations and potential negative consequences. *Computers in Human Behavior*, 85, 54–60. <https://doi.org/10.1016/j.chb.2018.03.031>
43. Thorpe, S., Bolster, A., & Neave, N. (2019). Exploring aspects of the cognitive behavioral model of physical hoarding in relation to digital hoarding behaviours. *Digital Health*, 5. <https://doi.org/10.1177/2055207619882172>
44. Tugtekin, U., & Barut Tugtekin, E. (2024). Influential factors on academics' digital hoarding behaviors: an exploratory PLS-SEM research. *Behaviour and Information Technology*. <https://doi.org/10.1080/0144929X.2024.2368701>
45. Uğur, N. G., & Çalışkan, K. (2022). Time for De-cluttering: Digital clutter scaling for individuals and enterprises. *Computers and Security*, 119, 102751. <https://doi.org/10.1016/j.cose.2022.102751>
46. Vinoi, N., Shankar, A., Khalil, A., Mehrotra, A., & Kumar, J. (2024). Holding on to your memories: Factors influencing social media hoarding behaviour. *Journal of Retailing and Consumer Services*, 76, 103617. <https://doi.org/10.1016/j.jretconser.2023.103617>
47. Vinoi, N., Shankar, A., Mehrotra, A., Kumar, J., & Azad, N. (2024). Enablers and inhibitors of digital hoarding behaviour. An application of dual-factor theory and regret theory. *Journal of Retailing and Consumer Services*, 77, 103645. <https://doi.org/10.1016/j.jretconser.2023.103645>
48. Vismara, M., Caricasole, V., Varinelli, A., & Fineberg, N. A. (2021). Cyberchondria, cyberhoarding, and other compulsive online disorders. In *Mental Health in a Digital World* (pp. 261–283). <https://doi.org/10.1016/B978-0-12-822201-0.00001-0>
49. Vitale, F., Janzen, I., & McGrenere, J. (2018). Hoarding and minimalism: Tendencies in digital data preservation. In *Conference on Human Factors in Computing Systems - Proceedings* (Vol. 2018-April). <https://doi.org/10.1145/3173574.3174161>
50. Wang, H., Miao, P., Jia, H., & Lai, K. (2023). The Dark Side of Upward Social Comparison for Social Media Users: An Investigation of Fear of Missing Out and Digital Hoarding Behavior. *Social Media and Society*, 9(1). <https://doi.org/10.1177/20563051221150420>

51. Wang, Y., Ding, A. S., & Xu, C. (2023). The impact of paid social Q&A on panic buying and digital hoarding at the stage of coexistence with COVID-19: The moderating role of sensitivity to pain of payment. *International Journal of Disaster Risk Reduction*, 84, 103472. <https://doi.org/10.1016/j.ijdrr.2022.103472>
52. Wendzel, S., Mazurczyk, W., & Haas, G. (2017). Don't you touch my nuts: Information hiding in cyber-physical systems. In **Proceedings—2017 IEEE Symposium on Security and Privacy Workshops, SPW 2017** (Vol. 2017-December, pp. 29–34). <https://doi.org/10.1109/SPW.2017.40>
53. Wendzel, S., Mazurczyk, W., & Haas, G. (2017). Steganography for Cyber-physical Systems. *Journal of Cyber Security and Mobility*, 6(2), 105–126. <https://doi.org/10.13052/jcsm2245-1439.621>
54. Xie, X., Song, T., Li, L., Jiang, W., Gao, X., Shu, L., & Liu, Y. (2024). Research on personal digital hoarding behaviors of college students based on personality traits theory: the mediating role of emotional attachment. *Library Hi Tech*. <https://doi.org/10.1108/LHT-01-2024-0040>
55. Yousaf, A., Kausar, R., & Fatima, I. (2021). Cognitive behavior therapy with compulsive hoarding: A single case study. *JPMMA, the Journal of the Pakistan Medical Association*, 71(1(B)), 356–359.
56. Yue, Z., Zheng, X., Zhang, S., Zhong, L., & Zhang, W. (2024). Influencing Path of Consumer Digital Hoarding Behavior on E-Commerce Platforms. *Sustainability (Switzerland)*, 16(23), 10341. <https://doi.org/10.3390/su162310341>
57. Zaremohzzabieh, Z., Abdullah, H., Ahrari, S., Abdullah, R., & Md Nor, S. M. (2024). Exploration of vulnerability factors of digital hoarding behavior among university students and the moderating role of maladaptive perfectionism. *Digital Health*, 10. <https://doi.org/10.1177/20552076241226962>
58. Zhang, X., & Chen, X. (2025). What drives digital hoarding? Understanding the impact of perceived value and the mediating role of security on digital hoarding behavior. *Current Psychology*. <https://doi.org/10.1007/s12144-024-07268-8>
59. Zhang, Y., & Liu, M. (2024). Research on the Mechanism of the Digital Hoarding Behavior of Mobile Social Media Users from the Perspective of Phenomenography. *Journal of Modern Information*, 44(7), 3–12+73. <https://doi.org/10.3969/j.issn.1008-0821.2024.07.001>
60. Zhao, D. (2024). Personal Digital Hoarding Behaviors in the Big Data Environment: A Grounded Theory Study. *Journal of Library Science in China*, 50(1), 96–114. <https://doi.org/10.13530/j.cnki.jlis.2024008>