TECHNOLOGY ACCEPTANCE AND TRUST IN INCLUSIVE DIGITAL ECOSYSTEMS FOR DISABILITY AND NEURODIVERSITY: A SYSTEMATIC REVIEW

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Double Blind Peer Review

Citation
Ciciriello, D. M., & Morsanuto, S. (2026). Technology acceptance and trust in inclusive digital ecosystems for disability and neurodiversity: A systematic review. *Italian Journal of Health Education, Sports and Inclusive Didactics, 10*(4).

Doi: https://doi.org/10.32043/gsd.v1i4.1963

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gsdjournal.it
ISSN: 3103-5744

ABSTRACT

This systematic review examined technology acceptance and trust in inclusive digital contexts involving neurodivergent individuals and people with disabilities. Following PRISMA 2020, Scopus, PubMed, and ERIC were searched for empirical studies published between January 2021 and August 2026. Of 127 records identified, 42 studies were included. TAM- and UTAUT-family models predominated (66.7%), whereas trust was explicitly operationalised in only 7.1% of studies. Acceptance was mainly associated with usability, perceived usefulness, social and contextual influences, organisational support, digital skills, self-efficacy, and accessibility. AI-related technologies were the largest category (45.2%), while educational contexts predominated (61.9%). Findings support a person–technology–context perspective and highlight the need to examine trust-related dimensions, accessibility, user capabilities, and contextual support alongside established acceptance constructs.

KEYWORDS
Technology acceptance; digital trust; artificial intelligence; neurodiversity; disability

Received 09-09-2026
Accepted 22-09-2026
Published 30-10-2026

1. Introduction

1.1 Digital Technologies, Artificial Intelligence, and Inclusive Digital Ecosystems

Digital technologies are increasingly used across educational, clinical, rehabilitation, occupational, and social-care settings to support learning, communication, participation, autonomy, and access to services for people with disabilities and neurodivergent individuals. This landscape includes assistive technologies, artificial intelligence (AI), digital learning environments, telehealth systems, serious games, virtual and augmented reality, socially assistive robots, and machine-learning-based platforms. Rather than operating exclusively as stand-alone tools, such technologies are often embedded within broader sociotechnical environments involving multiple stakeholders, including users with disabilities or neurodevelopmental conditions, families and caregivers, teachers, special educators, therapists, healthcare professionals, employers, and technology developers.

Recent empirical research illustrates the diversity of digital applications currently being investigated within disability and neurodiversity-related contexts. Adaptive serious games have been developed and evaluated for children with specific learning difficulties, including dyslexia, dyscalculia, and dysgraphia, with attention to both usability and technology acceptance (Yildirim & Surer, 2021). Immersive virtual reality has also been investigated as a rehabilitation technology for children with attention-deficit/hyperactivity disorder (ADHD), including evaluation of its acceptance and usability by clinical professionals (Zangiacomi et al., 2022). Within special and inclusive education, research has increasingly addressed the integration of assistive and AI-supported technologies into teaching practices. For example, Opoku et al. (2023) examined pre-service special education teachers' intention to incorporate assistive technologies when teaching students with disabilities, whereas Adigun et al. (2025) investigated pre-service teachers' behavioural intention to adopt AI tools in inclusive classrooms. Other studies have focused on AI acceptability in the specific context of teaching students with ADHD (Amouri et al., 2025), adaptive AI tutoring systems for women with disabilities (Maberah & Abu

Al-Rub, 2026), and machine-learning-based platforms supporting autism detection and management (Kohli et al., 2025).

These developments suggest that the relevance of digital inclusion extends beyond the technical availability of a device or platform. Technologies intended for disability and neurodiversity contexts must operate within environments characterised by heterogeneous cognitive, sensory, communicative, educational, and social needs. Their implementation may therefore depend not only on technical functionality but also on accessibility, professional preparation, institutional conditions, stakeholder expectations, user involvement, and the perceived suitability of the technology for specific contexts of use.

Consequently, the development of increasingly sophisticated digital technologies does not in itself ensure successful implementation. Understanding whether such technologies are perceived as useful, accessible, acceptable, trustworthy, and sustainable in practice represents a distinct and increasingly important research problem.

1.2 Technology Acceptance in Disability and Neurodiversity

The technical effectiveness of a technology should be distinguished conceptually from its acceptance and adoption. A system may perform its intended function while still being perceived as difficult to use, inappropriate, unreliable, inaccessible, or incompatible with the needs of its intended users. Technology-acceptance research therefore focuses not only on what a technology is capable of doing but also on the psychological, behavioural, social, and contextual factors associated with users' intentions and patterns of use.

One of the foundational approaches to this issue is the Technology Acceptance Model (TAM), which conceptualises perceived usefulness and perceived ease of use as key determinants of technology acceptance and behavioural intention (Davis, 1989). Related approaches have expanded the analysis of adoption to include constructs such as performance expectancy, effort expectancy, social influence, facilitating conditions, behavioural intention, and use behaviour (Venkatesh et al., 2003).

These constructs have subsequently been applied within disability and special-education contexts. Opoku et al. (2023), for example, used TAM to examine the intention of 138 female pre-service special education teachers to integrate assistive technology into teaching students with disabilities.

Their study identified perceived ease of use and computer self-efficacy as significant predictors of intention to use assistive technology.

Technology acceptance has also become increasingly relevant to AI-supported inclusive education. Adigun et al. (2025) applied the Unified Theory of Acceptance and Use of Technology (UTAUT) to investigate the behavioural intentions of 411 pre-service teachers regarding AI use in inclusive classrooms. The study examined performance expectancy, effort expectancy, social influence, facilitating conditions, and technological self-efficacy as possible determinants of behavioural intention, identifying differentiated relationships across these constructs rather than uniform effects.

Acceptance may also be evaluated through professionals and caregivers when technologies are intended for children or individuals who rely on broader support networks. Zangiacomi et al. (2022), for example, evaluated the acceptance and usability of an immersive VR application for children with ADHD through clinical experts. Similarly, Bsharat et al. (2025) applied UTAUT to investigate parents' acceptance of assistive technologies for children with autism spectrum disorder (ASD), thereby illustrating the importance of family stakeholders in technology-adoption processes.

These examples suggest that technology acceptance in disability and neurodiversity-related contexts cannot always be understood as a simple relationship between a single user and a technological artefact. Adoption may instead involve multiple actors whose expectations, competencies, resources, attitudes, and responsibilities influence whether a technology is introduced, accepted, and actually used.

1.3 Theoretical Models of Technology Acceptance

Several theoretical frameworks have been developed to explain the determinants of technology acceptance and use. Among the most influential is the Technology Acceptance Model developed by Davis (1989), in which perceived usefulness and perceived ease of use are central explanatory constructs. TAM was subsequently extended through TAM2, which incorporated additional social and cognitive determinants of perceived usefulness and behavioural intention (Venkatesh & Davis, 2000), and TAM3, which further integrated determinants of perceived ease of use and proposed a broader nomological network of technology acceptance (Venkatesh & Bala, 2008).

Another widely used framework is the Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh et al. (2003) through the integration of several previous models of technology adoption. UTAUT identifies performance expectancy, effort expectancy, social influence, and facilitating conditions as central determinants of behavioural intention and use behaviour. UTAUT2 subsequently extended this framework by incorporating additional constructs, including hedonic motivation, price value, and habit, particularly in consumer contexts (Venkatesh et al., 2012). These models have increasingly been transferred to disability, assistive technology, special education, and neurodevelopmental contexts. TAM has been used to investigate both educators' acceptance of assistive technology and users' responses to serious games designed for specific learning difficulties (Opoku et al., 2023; Yildirim & Surer, 2021). TAM3 has been applied to the evaluation of an immersive VR system designed for children with ADHD (Zangiacomi et al., 2022), while TAM2 has been used to investigate AI acceptability among pre-service teachers in the context of educating students with ADHD (Amouri et al., 2025).

UTAUT has likewise been employed within inclusive educational settings. Adigun et al. (2025) applied UTAUT to pre-service teachers' intention to adopt AI in Nigerian inclusive classrooms, whereas Bsharat et al. (2025) used the model to investigate parents' acceptance of assistive technologies for children with ASD.

However, the study of inclusive digital technologies is not restricted to TAM- and UTAUT-derived perspectives. Other theoretical and methodological approaches increasingly emphasise user participation, accessibility, contextual adaptation, human-centred design, and the characteristics of AI-mediated interaction. Maberah and Abu Al-Rub (2026), for example, developed an adaptive AI tutoring system for women with disabilities using a framework integrating Universal Design for Learning, Participatory Design, and Explainable AI principles. Kohli et al. (2025) examined stakeholder perceptions of a machine-learning-based platform for ASD detection and management through a human-centred perspective on technology adoption, while Tippavajjula et al. (2026) used the Elaboration Likelihood Model to analyse trust and continued intention to use AI-enabled recruitment systems among neurodivergent and neurotypical applicants.

The coexistence of traditional technology-acceptance models and broader human-centred, participatory, accessibility-oriented, and AI-specific

perspectives raises an important theoretical question: to what extent do existing frameworks capture the range of factors involved in the acceptance and continued use of inclusive digital technologies?

1.4 From Technology Acceptance to Trust

The increasing integration of AI and other data-driven technologies introduces considerations that may extend beyond conventional perceptions of usefulness and ease of use. Unlike many traditional digital tools, AI-supported systems may generate recommendations, classify users, personalise content, mediate decisions, or process potentially sensitive personal information. In these circumstances, users and stakeholders may evaluate not only whether a technology is useful and easy to operate, but also whether its functioning is understandable, transparent, reliable, fair, and compatible with their expectations and values.

Trust therefore represents an increasingly relevant construct in the study of AI-supported technologies. This is particularly important in contexts involving disability and neurodiversity, where technologies may influence educational opportunities, clinical decisions, access to services, workplace participation, or interactions involving sensitive personal information.

Empirical evidence from neurodiversity-related contexts illustrates this relationship. Tippavajjula et al. (2026) examined trust and continued intention to use AI-enabled recruitment systems among applicants with previous experience of these technologies. Their study showed that trust operated as an intervening mechanism between several technological affordances and continued intention to use the systems, and that some relationships differed between neurodivergent and neurotypical applicants.

Questions of trust may also intersect with transparency, explainability, and inclusive design. Maberah and Abu Al-Rub (2026) explicitly incorporated Explainable AI alongside Universal Design for Learning and Participatory Design in the development of IncluLearn AI, an adaptive tutoring system for women with disabilities. The system was designed around principles of personalisation, accessibility, and transparency, illustrating how AI implementation in disability contexts may require attention to dimensions beyond functional performance alone.

Similarly, Kohli et al. (2025) found that stakeholders involved in an ML-based platform for ASD detection and management emphasised human-centred implementation and highlighted ethical and legal considerations as relevant to fostering trust and supporting adoption. The authors consequently called for greater attention to fairness, accountability, transparency, and ethics in future development and implementation of such technologies.

At the same time, adoption should not necessarily be reduced to initial behavioural intention. Technology use may develop across different stages, including early adoption, satisfaction, continued use, and post-adoption experience. In autism intervention, for example, Alharbi (2026) examined technology-mediated systems from a caregiver-centred human-factors perspective, drawing attention to adoption and sustained use within complex service and caregiving environments.

Individual and contextual factors may further interact with acceptance and trust. Research has considered constructs such as self-efficacy, facilitating conditions, professional preparation, social influence, user experience, accessibility, participation in design, and institutional support (Adigun et al., 2025; Maberah & Abu Al-Rub, 2026; Opoku et al., 2023). These dimensions suggest that the adoption of inclusive digital technologies may emerge from interactions among technological characteristics, individual capabilities, social relationships, organisational conditions, and ethical considerations.

Nevertheless, it remains unclear how existing theoretical models account for the interconnected roles of technology acceptance, trust, accessibility, transparency, ethical considerations, individual capabilities, and contextual factors in digital ecosystems involving neurodivergent individuals, people with disabilities, and relevant stakeholders. Furthermore, the extent to which these dimensions have been investigated across different technologies, populations, stakeholder groups, and application contexts has not yet been systematically mapped within the scope addressed by the present review.

A systematic synthesis is therefore needed before determining whether existing theoretical approaches provide sufficient explanatory coverage, whether they are being extended in response to emerging AI-related concerns, and which theoretical, methodological, or empirical dimensions remain comparatively underexplored.

1.5 Aim of the Systematic Review

Against this background, the present systematic review aims to identify, map, and critically synthesise empirical research investigating technology acceptance and trust in inclusive digital technologies involving neurodivergent individuals, people with disabilities or special educational needs, and relevant stakeholder groups.

Rather than assuming a priori that existing technology-acceptance models are insufficient, the review examines how acceptance, adoption, behavioural intention, actual use, continued use, and trust have been conceptualised and operationalised across the available literature. Particular attention is given to the theoretical models and constructs adopted or extended by empirical studies, as well as to technological, individual, social, organisational, accessibility-related, and ethical factors associated with acceptance and trust.

The review also seeks to map the technologies, populations, stakeholder groups, and application contexts represented in existing research. This mapping is intended to identify both areas of research concentration and domains that remain comparatively under-investigated.

Accordingly, the review addresses the following research questions:

RQ1. Which theoretical models and constructs have been used to investigate technology acceptance and trust in inclusive digital technologies?

RQ2. Which factors influence technology acceptance and trust among neurodivergent individuals, people with disabilities, and relevant stakeholders?

RQ3. Which technologies, populations, stakeholders, and application contexts have been investigated?

RQ4. Which theoretical, methodological, and empirical gaps emerge regarding the integration of technology acceptance and trust in inclusive digital ecosystems?

By addressing these questions, the review seeks to provide a structured account of the current theoretical and empirical landscape and to establish an evidence-based foundation for future research on inclusive, accessible, trustworthy, and sustainable digital technologies.

2. Methods

2.1 Review Design and Reporting Guidelines

This systematic review was conducted and reported in accordance with the **Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 Statement** (Page et al., 2021). PRISMA 2020 provides a structured framework for reporting the rationale, eligibility criteria, information sources, study-selection process, synthesis methods, and results of systematic reviews. The review process was therefore organised according to the main stages of identification, screening, eligibility assessment, and inclusion.

The literature search and reporting of search strategies additionally followed the **PRISMA-S extension for literature searches in systematic reviews** (Rethlefsen et al., 2021). PRISMA-S was used to enhance the transparency and reproducibility of the search process by documenting the bibliographic databases searched, search dates, complete search strategies, limits applied, and procedures used for record management and deduplication.

Because the review aimed to map heterogeneous empirical research concerning technology acceptance and trust across different technologies, populations, stakeholders, and application contexts, no restriction was imposed on a single empirical research design. Quantitative, qualitative, and mixed-methods studies were considered eligible when they met the predefined population, technology, context, and outcome criteria. The review protocol was not prospectively registered.

2.2 Eligibility Criteria

Eligibility criteria were defined a priori according to the objectives and research questions of the review. Studies were considered eligible if they met the predefined criteria concerning publication type, population and

context, technology, outcomes of interest, publication period, and language.

Publication type. Original empirical studies published in peer-reviewed academic sources were eligible for inclusion. Quantitative, qualitative, mixed-methods, observational, experimental, quasi-experimental, pilot, usability, user-evaluation, and technology-adoption studies were considered eligible when they provided sufficient empirical data relevant to the review questions. Full peer-reviewed conference papers containing sufficient empirical information were also considered eligible. Reviews, theoretical or conceptual papers without original empirical data, editorials, commentaries, protocols, theses, books or book chapters, conference abstracts without sufficient empirical data, and other non-peer-reviewed publications were excluded.

Population and context. Studies were eligible when they involved neurodivergent individuals, people with disabilities, or relevant stakeholder groups within disability-, neurodiversity-, special-education-, inclusive-education-, healthcare-, rehabilitation-, employment-, or support-related contexts. Eligible populations included, but were not limited to, autistic individuals, individuals with ADHD, people with developmental or other disabilities, students with special educational needs or disabilities, and users of inclusive or assistive digital technologies. Relevant stakeholders included teachers and educators, parents and caregivers, healthcare and rehabilitation professionals, therapists, support professionals, and other stakeholders directly involved in the adoption, implementation, or use of these technologies.

Technology. Eligible studies investigated digital technologies relevant to inclusive contexts, including artificial intelligence (AI) and generative AI, machine-learning and intelligent systems, assistive technologies and augmentative and alternative communication systems, digital and mobile applications or platforms, telehealth and telemedicine, serious games, virtual or immersive technologies, socially assistive or educational robots, and other digitally mediated tools or environments.

Outcomes of interest. Studies were required to investigate at least one outcome related to technology acceptance, adoption, behavioural intention, intention to use, actual use, continued use, acceptability, usability when explicitly connected to technology acceptance or user evaluation, or trust. Studies were not required to adopt TAM, UTAUT, or another formal technology-acceptance framework. Studies focusing

exclusively on technological performance, clinical effectiveness, learning outcomes, or intervention efficacy without investigating acceptance, adoption, use, acceptability, trust, or relevant user perceptions were excluded.

Publication period and language. Studies published between 1 January 2021 and 31 August 2026 were eligible. Only publications written in English were included.

The complete inclusion and exclusion criteria are summarised in Table 1.

Table 1: Eligibility criteria applied during study selection

Criterion	Inclusion criteria	Exclusion criteria
Publication type	Original empirical studies published in peer-reviewed academic sources, including quantitative, qualitative, mixed-methods, observational, experimental, quasi-experimental, pilot, usability, user-evaluation, and technology-adoption studies. Full peer-reviewed conference papers were eligible when sufficient empirical data were reported.	Reviews; theoretical or conceptual papers without original empirical data; editorials; commentaries; protocols; theses; books or book chapters; conference abstracts without sufficient empirical data; non-peer-reviewed publications.
Population and context	Neurodivergent individuals, people with disabilities, or relevant stakeholder groups within disability-, neurodiversity-, special-education-, inclusive-education-, healthcare-, rehabilitation-, employment-, or support-related contexts. Relevant stakeholders included teachers and educators, parents and caregivers, healthcare and rehabilitation professionals, therapists, support professionals, and other stakeholders directly involved in technology adoption, implementation, or use.	Studies without a relevant disability-, neurodiversity-, special/inclusive-education-, healthcare-, rehabilitation-, employment-, or support-related population, stakeholder group, or context.
Technology	Digital technologies relevant to inclusive contexts, including AI and generative AI, machine-learning and intelligent systems, assistive technologies and AAC systems, digital/mobile applications or platforms, telehealth/ telemedicine, serious games, virtual or immersive technologies, socially assistive or educational robots, and other digitally mediated tools or environments.	Studies not involving a relevant digital technology or digitally mediated system.
Outcomes of interest	Technology acceptance, adoption, behavioural intention, intention to use, actual use, continued use, acceptability, usability when connected to technology acceptance or user evaluation, or trust. Adoption of TAM, UTAUT, or another formal acceptance model was not required.	Studies focusing exclusively on technological performance, clinical effectiveness, learning outcomes, or intervention efficacy without investigating acceptance, adoption, use, acceptability, trust, or relevant user perceptions.
Publication period	1 January 2021–31 August 2026.	Publications outside the predefined period.
Language	English.	Languages other than English.

2.3 Information Sources

The systematic literature search was conducted across three bibliographic databases: Scopus, PubMed, and ERIC. These databases were selected to provide complementary coverage of interdisciplinary research spanning digital technology, healthcare, education, disability, neurodiversity, and inclusive practices.

The final database searches were conducted on 31 August 2026 and covered publications from 1 January 2021 to 31 August 2026. Google Scholar and supplementary searching were used, where necessary, to support full-text retrieval and citation searching rather than as primary sources for the identification of the review corpus.

The complete database-specific search strategies, including search fields, Boolean combinations, date restrictions, search dates, and numbers of records retrieved, are reported in Supplementary Table S1.

2.4 Search strategy

The search strategy was developed around three core conceptual domains: (1) technology acceptance, adoption, behavioural intention, and trust; (2) digital technologies, including artificial intelligence, assistive technologies, digital platforms, telehealth, telemedicine, and serious games; and (3)

neurodiversity-, disability-, special-education-, and inclusive-education-related populations and contexts. Terms within each conceptual domain were combined using the Boolean operator OR, while the three conceptual domains were combined using AND.

Search syntax was adapted to the indexing structure and functionalities of each database while maintaining the same overall conceptual structure. In Scopus, searches were conducted within titles, abstracts, and keywords using the TITLE-ABS-KEY field. In PubMed, equivalent terms were searched within titles and abstracts. In ERIC, the search strategy was adapted to the available search interface while preserving the same three conceptual domains.

The search included terms referring to technology acceptance and adoption, such as technology acceptance, technology adoption, user acceptance, intention to use, behavioural intention, Technology Acceptance Model, UTAUT, and trust-related terminology. Technology-related terms included artificial intelligence, assistive technologies, digital technologies and platforms, telehealth, telemedicine, and serious games. Population- and context-related terms included neurodiversity, neurodivergent individuals, autism, ADHD, developmental disabilities, special educational needs, special education, and inclusive education.

Publication-date restrictions were incorporated directly into the Scopus and PubMed search strategies. For ERIC, publication-date eligibility was additionally verified during record management. Two ERIC records falling outside the predefined publication period were removed before title and abstract screening.

The complete search strings are reported verbatim in Supplementary Table S1 to ensure transparency and reproducibility. No retrospective modifications were made to the reported database queries.

Supplementary Table S1. Complete search strategies used for database searching

Database	Search field / syntax	Complete search strategy	Date restrictions	Search date	Records retrieved
Scopus	TITLE-ABS-KEY	TITLE-ABS-KEY((("technology acceptance" OR "technology adoption" OR "user acceptance" OR "intention to use" OR "behavioral intention" OR "behavioural intention" OR "Technology Acceptance Model" OR UTAUT OR UTAUT2 OR "digital trust" OR "user trust" OR "perceived trust") AND ("artificial intelligence" OR "assistive technology" OR "assistive technologies" OR "digital technology" OR "digital technologies" OR "digital platform" OR "digital platforms" OR telehealth OR telemedicine OR "serious game" OR "serious games") AND (neurodiversity OR neurodivergent OR autism OR autistic OR ADHD OR "developmental disability" OR "developmental disabilities" OR "special educational needs" OR "special education" OR "inclusive education"))) AND PUBYEAR > 2020 AND PUBYEAR < 2027	2021–2026	31 Aug 2026	**91**
PubMed	Title/Abstract	("technology acceptance"[Title/Abstract] OR "technology adoption"[Title/Abstract] OR "user acceptance"[Title/Abstract] OR "intention to use"[Title/Abstract] OR "behavioral intention"[Title/Abstract] OR "behavioural intention"[Title/Abstract] OR "Technology Acceptance Model"[Title/Abstract] OR UTAUT[Title/Abstract] OR UTAUT2[Title/Abstract] OR "digital trust"[Title/Abstract] OR "user trust"[Title/Abstract] OR "perceived trust"[Title/Abstract]) AND ("artificial intelligence"[Title/Abstract] OR "assistive technology"[Title/Abstract] OR "assistive technologies"[Title/Abstract] OR "digital technology"[Title/Abstract] OR "digital technologies"[Title/Abstract] OR "digital platform"[Title/Abstract] OR "digital platforms"[Title/Abstract] OR telehealth[Title/Abstract] OR telemedicine[Title/Abstract] OR "serious game"[Title/Abstract] OR "serious games"[Title/Abstract]) AND (neurodiversity[Title/Abstract] OR neurodivergent[Title/Abstract] OR autism[Title/Abstract] OR autistic[Title/Abstract] OR ADHD[Title/Abstract] OR "developmental disability"[Title/Abstract] OR "developmental disabilities"[Title/Abstract] OR "special educational needs"[Title/Abstract] OR "special education"[Title/Abstract] OR "inclusive education"[Title/Abstract]) AND ("2021/01/01"[Date - Publication] : "2026/08/31"[Date - Publication])	1 Jan 2021–31 Aug 2026; incorporated into search string	31 Aug 2026	**19**
ERIC	ERIC search interface	("technology acceptance" OR "technology adoption" OR "user acceptance" OR "intention to use" OR "behavioral intention" OR "behavioural intention" OR "Technology Acceptance Model" OR UTAUT OR UTAUT2 OR "digital trust" OR "user trust" OR "perceived trust") AND ("artificial intelligence" OR "assistive technology" OR "assistive technologies" OR "digital technology" OR "digital technologies" OR "digital platform" OR "digital platforms" OR telehealth OR telemedicine OR "serious game" OR "serious games") AND (neurodiversity OR neurodivergent OR autism OR autistic OR ADHD OR "developmental disability" OR "developmental disabilities" OR "special educational needs" OR "special education" OR "inclusive education")	Eligibility period: 1 Jan 2021–31 Aug 2026; date eligibility additionally verified during record management	31 Aug 2026	**17**

Note. Search syntax was adapted to the functionalities of each database while maintaining the same three conceptual domains. Publication-date restrictions were incorporated directly into the Scopus and PubMed search strategies. For ERIC, publication-date eligibility was additionally verified during record management. Two records falling outside the predefined publication period (1 January 2021–31 August 2026) were removed prior to title and abstract screening.

2.5 Study Selection

All records retrieved from the three bibliographic databases were exported and merged into a single screening dataset. Duplicate records were identified through comparison of bibliographic metadata, including DOI, title, authorship, and publication information. The study selection process was conducted in accordance with the PRISMA 2020 recommendations for the identification, screening, retrieval, and eligibility assessment of records and reports (Page et al., 2021).

The initial database searches identified 127 records, including 91 records from Scopus, 19 from PubMed, and 17 from ERIC. A total of 29 duplicate records were identified and removed. Two additional records were removed prior to title and abstract screening because they fell outside the predefined publication period (1 January 2021–31 August 2026). Consequently, 96 records were retained for title and abstract screening.

Title and abstract screening and the subsequent full-text eligibility assessment were conducted independently by two reviewers using the predefined eligibility criteria. Disagreements regarding study eligibility were resolved through discussion and consensus. When the information available at the title and abstract stage was insufficient to reach a definitive decision, the record was retained for full-text assessment.

During title and abstract screening, records were retained when the available information indicated potential relevance with respect to three core eligibility dimensions: (a) an eligible population, stakeholder group, or context; (b) an eligible digital technology; and (c) an outcome related to technology acceptance, adoption, behavioural intention, actual use, continued use, acceptability, or trust.

Following title and abstract screening, 47 records were excluded and 49 reports were sought for full-text retrieval. Six reports could not be retrieved despite targeted attempts to locate the complete report through publisher websites, academic databases, institutional repositories, and other scholarly sources. Consequently, 43 full-text reports were assessed against the predefined eligibility criteria.

For reports excluded at the full-text stage, a single primary reason for exclusion was assigned to ensure transparent and consistent reporting of eligibility decisions. One report was excluded because the study population did not meet the predefined eligibility criteria. Although the study

investigated technology acceptability in relation to ADHD symptomatology, participants constituted a population of young adult women with obesity in whom ADHD was identified through symptom screening rather than a defined ADHD or neurodivergent study population.
Accordingly, 42 studies met all eligibility criteria and were included in the systematic review. The complete study-selection process is presented in the PRISMA 2020 flow diagram (Figure 1).

2.6 Data Extraction

A structured data-extraction matrix was developed to ensure the systematic and consistent collection of information from all studies meeting the eligibility criteria. Data extraction was conducted by a single reviewer using a predefined extraction framework developed before data synthesis. When study-level information was unclear, incomplete, or not explicitly reported, the available full-text report and, where necessary, other accessible primary academic sources were consulted to verify the extracted information. Information that could not be reliably established from the available sources was coded as not reported (NR) rather than inferred.
For each included study, bibliographic, methodological, theoretical, contextual, and outcome-related information was extracted. The extracted variables included study ID, author(s), year of publication, country or study setting, study design, sample size, participant characteristics, target population, stakeholder group, technology type, application context, theoretical or conceptual framework, acceptance- and adoption-related constructs, trust-related constructs, outcome measures, determinants of technology acceptance or trust, analytical approach, principal findings, and reported methodological limitations.
Technology types were coded according to categories emerging from the included literature, including artificial intelligence and generative artificial intelligence, machine-learning and intelligent systems, assistive technologies and augmentative and alternative communication systems, serious games, virtual and immersive technologies, socially assistive and educational robots, digital and mobile learning environments, and telehealth or multi-technology service ecosystems.
Stakeholder groups were coded according to the participants directly represented in each study. These included neurodivergent individuals and people with disabilities, students and learners, teachers and special educators, pre-service teachers and higher-education faculty, parents and

caregivers, healthcare and service professionals, and managerial, administrative, supervisory, or other relevant stakeholders. Because individual studies could involve more than one stakeholder group, stakeholder categories were not treated as mutually exclusive.

The theoretical or conceptual framework adopted by each study was recorded without restricting extraction to predefined technology-acceptance models. The Technology Acceptance Model (TAM) and its extensions, the Unified Theory of Acceptance and Use of Technology (UTAUT) and its extensions, and alternative or complementary theoretical frameworks were therefore coded alongside studies investigating acceptance, adoption, actual use, acceptability, usability, continued use, or trust without explicitly adopting a formal technology-acceptance model.

Trust was coded conservatively. A distinction was made between studies operationalising trust as an explicit construct or variable, studies addressing trust through qualitative or conceptually related themes, and studies investigating adjacent dimensions such as privacy, transparency, explainability, fairness, ethical concerns, or confidence without formally operationalising trust. These categories were not considered interchangeable.

Extracted information was subsequently mapped to the four research questions. Theoretical models and constructs informed RQ1; determinants of technology acceptance and trust informed RQ2; technologies, populations, stakeholder groups, and application contexts informed RQ3; and theoretical, methodological, and empirical limitations and evidence-base imbalances informed RQ4.

The principal characteristics of the included studies are presented in Table 2, while the complete study-level data-extraction matrix is provided in Supplementary Table S2.

Table 2. Characteristics of the studies included in the systematic review (n = 42)

Study	Country/setting	Sample and participants	Technology	Theoretical framework	Application context
Şahin F.; Kızılaslan A.; Şimşek Ö. (2024)	Türkiye	311; Teacher candidates trained in special/inclusive education	Assistive technology	Extended Technology Acceptance Model (TAM)	Inclusive education / special needs
Zangiacomi A.; Flori V.; Greci L.; Scaglione A.; Arlati S.; Bernardelli G. (2022)	Italy	20; Clinical experts working in developmental-age rehabilitation	Immersive virtual reality	TAM3	ADHD assessment/intervention
Yildirim O.; Surer E. (2021)	Türkiye	33; 10 educators and 23 children with specific learning difficulties	Adaptive serious games	TAM + System Usability Scale (SUS)	Learning support
Lagos P.H.; Calderón J.F.; Baeza R.O.; Rojas L. (2025)	NR	10; Autistic people aged 10–25, support levels 2–3; caregivers involved	Mobile AAC/pictogram application with GPT-3.5 and T5 components	M-UTUAT (UTAUT + PACMAD adaptation)	Augmentative and alternative communication
Ma K.W.; Julianton R.P.; Chan X.Y.; Chai Y.T.; Mukred M.; Leen M.W.E.; Gumaei A.H. (2025)	Saudi Arabia (student survey); expert panel from Yemen, Saudi Arabia and Malaysia	118 students + 8 experts; Students with special needs plus expert/stakeholder input	AI-based assistive technologies	TAM-related adoption framework	Inclusive education
Welesilassie M.W.; Gerencheal B.; Berihu S. (2025)	Ethiopia	87 survey participants + 12 interview participants; Students with physical disabilities	Digital technologies	TAM + Digital Divide Theory	Inclusive education / digital divide
Bernardelli G.; Arlati S.; Scaglione A.; Saligari E.; Frigerio P.; Sotgiu A.; Flori V.; Lucini D.; Vignoli A.; Zangiacomi A. (2025)	Italy (Milan)	19; 9 children with ADHD and 10 neurotypical children	Virtual reality	Acceptance/satisfaction evaluation	Attention orientation / rehabilitation
de Oliveira G.M.; Mattjie A.C.; Rambo A.J.; de Oliveira Alves G.; do Carmo E.G. (2026)	Brazil	12 basic-education teachers; Teachers / stakeholder participants in ASD inclusion context	Serious game	SUS-based evaluation	Teacher continuing education for ASD inclusion
Zraydi F.; Opoku M.P.; Guirguis B.M.; Ndijuye L.G.; Gyimah E.M. (2026)	United Arab Emirates	244; Teachers working with students with learning disabilities	Artificial intelligence	UTAUT-based model	Inclusive education
Kamran M.; Bano N. (2024)	Pakistan	16 participants (1 administrator, 3 coordinators, 12 teachers); School administrators, coordinators and teachers	Assistive technology	No formal TAM/UTAUT; qualitative adoption/integration perspective	Inclusive/special education
Maberah S.; Abu Al-Rub M. (2026)	Jordan	45; Women with visual, hearing or mobility disabilities	AI-driven adaptive tutoring system	UDL + Participatory Design + Explainable AI (XAI)	Digital skills / inclusive learning
Tippavajjula A.S.L.; Shankar A.; Majumdar B. (2026)	NR	324; Applicants with prior AI-recruitment experience; neurodivergent and neurotypical groups	AI-enabled recruitment systems	Elaboration Likelihood Model (ELM)	Employment / recruitment
Zhang Y.; Paracha S. (2026)	China	7; Special education teachers	Digital learning technologies	No formal acceptance model	Special education
Khoshtaria T.; Matin A.; Rinella S.; Polizzi A. (2026)	Georgia	592; Teachers working with children with ASD	Language-skills digital applications	Modified UTAUT/UTAUT2 + customization	Language skills support for autistic children
Kohli M.; Kar A.K.; Sinha S.; Kohli S. (2025)	India	NR; Parents, clinicians and potential investors in ASD services	Machine-learning-based digital platform	Human-centred/FATE-informed stakeholder framework	ASD detection/management
Bsharat B.A.; Al-Duhoun A.H.; Ghanouni P.; Alhusban R.; Begeske J. (2025)	Jordan	130; Parents of children with ASD	Assistive technologies	UTAUT	Home/educational support
Pavez R.; Diaz J.; Arango-Lopez J.; Ahumada D.; Mendez-Sandoval C.; Moreira F. (2023)	Chile (Temuco)	12 health professionals (7 psychologists, 2 occupational therapists, 3 child/adolescent psychiatrists); Specialists evaluating a system designed for children with ASD	AI/CNN intelligent mirror for emotion recognition	Technology Acceptance Model (TAM)	Emotion recognition support
Hamash M.; Ghreir H.; Boulhrir T.; Tiernan P.; Donlon E. (2025)	United Arab Emirates	163; Special education teachers in Abu Dhabi	AI tools including ChatGPT	No formal TAM required; adoption/use perspective	Special education teaching
Delos Reyes N.R.T.; Sitoy R.E.; Cabigon A.F.P.; Añora H.C.; Tandag J.N.; Entice M.E.; Villaganas M.A.C.; Himang M. (2026)	Philippines	8 academic experts; Experts/stakeholders in special education supervision	Artificial intelligence	Fuzzy Best-Worst Method (BWM)	Special education supervision
Shahab M.; Meghdari A.F.; Taheri A.; Alemi M. (2026)	NR	NR; Children with dyslexia plus typically developing comparison group	Educational socially assistive robot (TABAN2)	Acceptance evaluation	Learning support
Zraydi F.; Opoku M.P.; Guirguis B.M.; Ndijuye L.G.; Gyimah E.M. (2026)	United Arab Emirates	244; General and special education teachers	Generative AI	UTAUT + AI-TPACK	Instruction for students with learning disabilities/difficulties

Study	Country/setting	Sample and participants	Technology	Theoretical framework	Application context
Hennekam S.; Walkowiak E.; Szulc J. (2026)	France	30; Neurodivergent workers	Assistive technologies (e.g., screen readers and workplace tools)	Ability–Motivation–Opportunity (AMO) model	Employment / workplace
Esfandbod A.; Nourbala A.; Rokhi Z.; Meghdari A.F.; Taheri A.; Alemi M. (2024)	Iran	34; 18 hearing-impaired adults and 16 hearing-impaired children	Socially assistive lip-syncing robot (APO)	UTAUT for adults; Self-Assessment Manikin (SAM) for children	Lip-reading training
Sytziouki M.; Tsoni M.; Fachantidis N.; Moustakas I. (2025)	Greece	309; Secondary-school teachers	Assistive technology	TAM-informed model + readiness for change + computer self-efficacy	Secondary education
Alharbi O.M. (2026)	NR	260; Caregivers of autistic children (n=123) and autism service providers (n=137) in initial phase; interviews in follow-up	Telehealth, e-learning and digital intervention/coordination tools	Empirically grounded human-factors framework	Autism intervention and service delivery
Amouri H.; Haroud S.; Ouchaouka L.; Saqri N. (2025)	Morocco	164 pre-service teachers; Pre-service teachers	Artificial intelligence	TAM2	Inclusive education
Darsono T.; Haryono T.; Setiawan A.I.; Harsono M.; Wijayanto H.; Dwianto A. (2026)	Indonesia	312; Managers in special education institutions	Assistive technology	TAM + Resource-Based View + Stakeholder Theory	Special education management
Altakhaineh A.R.M.; Alkhatib R.N.; Awad T. (2026)	Jordan; United Arab Emirates	80 questionnaire participants + 36 focus-group participants; Teachers, specialists and parents	Artificial intelligence	Integrated UTAUT2 + socio-cognitive perspective	Inclusive education
Aliazas J.V.; Andrade R.; Del Rosario A.L.; Panoy J.F.; Pasia A.; Madrideo J. (2026)	Philippines	213 faculty members; Higher-education faculty	Artificial intelligence	TAM + Universal Design for Learning (UDL)	Inclusive pedagogy in higher education
Sakowicz M.; Hamidi F. (2026)	United States (Eastern U.S.)	7; Special education teachers	AI-enabled technologies	No formal TAM/UTAUT	Special education
Cheng H.-Y.K.; Shen W.-T.; Yu Y.-C.; Ju Y.-Y. (2026)	Taiwan	702; Special education teachers	Assistive technology	Adoption-factor model; logistic regression	Special education
Abd El-Sattar H.K.H. (2025)	Egypt (Cairo)	21 children in evaluation sample (14 autistic + 7 typically developing volunteers); additional parents/educators provided usability feedback; Learners with autism	Metaverse / immersive technologies	TAM + SUS	Daily living activities / education
Lin X.; Han X.; Qiu J. (2025)	NR	NR; Special education teachers	Generative AI	Technology Acceptance Model (TAM)	Instructional enrichment and accommodations
Lin X.; Cui H.; Zhu X. (2026)	China	287; 277 special education teachers plus 10 interview participants	Generative AI	Technology Acceptance Model (TAM)	IEP writing and lesson planning
Opoku M.P.; Elhoweris H.; Alhosani N.; Mustafa A.; Alkhateri T.; Nketsia W. (2023)	United Arab Emirates	138; Trainee special education teachers	Assistive technology	Technology Acceptance Model (TAM)	Teaching students with disabilities
George J.P.; Muttungal P.V.; Davidson B.G.J.; Priya N. (2026)	NR	349; College students with autism	Generative AI	Technology Acceptance Model (TAM)	Mental well-being support
Adigun O.T.; Tijani F.A.; Haihambo C.K.; Enock S.L. (2025)	Nigeria	411; Pre-service teachers	Artificial intelligence	UTAUT	Inclusive classrooms
Gadzhimusieva D.; Meliá S.; Lledó G.L.; Nasabeh S.S. (2026)	Spain (Valencian Community)	30; Special education teachers evaluating a system for autistic students	AI-driven learning management system (SpectrumSphere)	Extended TAM3	Personalized education for autistic students
Chandra S.; Fane J.; Azizi N.; McKenzie-Gray M.; Sager M.; Dautenhahn K. (2026)	Canada (British Columbia / Ontario partnership)	NR; Educators and students in learning-disability contexts	Instructional assistive technology / social robot	Human-centred design + TAM	Academic and behavioural instruction
Zhang H.; Wang Z.; Zong S.; Wu H.; Jiang R.; Cui Y.; Li S.; Luo H. (2024)	China (Jilin Province)	17 hearing-impaired undergraduate students; College students with hearing impairment	Intelligent learning environment	TAM + Community of Inquiry	Higher education
Ferhan Sahin; Gizem Yildiz (2024)	Türkiye	1298; University students with special needs across eight disability categories	Mobile learning	TAM + Self-Determination Theory (SDT)	Higher education
I Wayan Sumandya; I Wayan Widana; A. A. Istri Mirah Dharmadewi; Gde Iwan Setiawan; Akhmad Habibi; Robi Hendra (2026)	Indonesia	1,004 inclusive-school teachers and students; Teachers in inclusive schools	AI-STEM	Extended UTAUT	Inclusive schools

Note. NR = information not explicitly reported or not verifiable from the accessible report after two targeted verification passes. The complete study-level extraction is reported in Supplementary Table S2.

2.7 Methodological Quality Appraisal

The methodological quality of the included studies was appraised using the Mixed Methods Appraisal Tool (MMAT), version 2018 (Hong et al., 2018). The MMAT was selected because the review included methodologically heterogeneous empirical studies and provides design-specific appraisal criteria for qualitative studies, randomized controlled trials, non-randomized studies, quantitative descriptive studies, and mixed-methods studies.

Each included study was first assessed against the two MMAT screening questions concerning the clarity of the research question and whether the collected data were adequate to address that question. Studies were then classified according to the most appropriate MMAT methodological category and assessed against the five corresponding design-specific criteria. For mixed-methods studies, the relevant qualitative and quantitative component-specific criteria were additionally examined, together with the five mixed-methods criteria, in accordance with MMAT guidance.

Each criterion was rated as “Yes”, “No”, or “Can’t tell”. A “Can’t tell” rating was retained only when the full report or another accessible primary source did not provide sufficient information for a defensible Yes/No judgement.

Methodological appraisal was conducted by a single reviewer. To strengthen consistency and reduce uncertainty in criterion-level judgements, ratings initially classified as “Can’t tell” or otherwise requiring clarification were subjected to targeted second-pass verification using full-text articles, publisher versions, open-access repositories, and other accessible primary academic sources where available. Study-level rationales and source information were recorded in the appraisal matrix.

In accordance with MMAT guidance, criterion-level ratings were not aggregated into an overall numerical quality score. Methodological strengths, limitations, and residual uncertainty were instead retained at study level and considered descriptively when interpreting the evidence.

Following methodological classification and targeted verification, the 42 included studies comprised 19 quantitative descriptive studies, 12 mixed-methods studies, six quantitative non-randomized studies, and five qualitative studies. No included study was classified as a randomized controlled trial. Across the 210 primary design-specific criterion ratings, 155 were rated “Yes”, 14 “No”, and 41 “Can’t tell”. These counts are reported

solely as a descriptive overview of the appraisal and do not constitute an MMAT quality score.
A summary of the methodological appraisal is presented in Table 3, while the complete study-level assessment, including criterion-level judgements, explanatory rationales, component-level assessment of mixed-methods studies, and the verification log, is provided in Supplementary Table S3.

Table 3: Summary of the MMTA 2018 methodological appraisal of the included studies (n=42)

MMAT category	Studies, n	Yes	No	Can't tell
Quantitative descriptive	19	65	10	20
Mixed methods	12	51	0	9
Quantitative non-randomized	6	16	4	10
Qualitative	5	23	0	2
All studies	42	155	14	41

Note. Counts refer to the five primary design-specific MMAT criteria applied to each study. For mixed-methods studies, component-specific qualitative and quantitative criteria were additionally checked and are reported in Supplementary Table S3. Criterion-level counts are descriptive only and do not constitute an overall MMAT quality score.

2.8 Data Synthesis

Given the methodological, technological, population, and outcome heterogeneity of the included studies, a statistical meta-analysis was not considered appropriate. The evidence was therefore synthesised using a structured narrative and thematic approach, supported by descriptive quantitative summaries and organised according to the four research questions.
Prior to synthesis, study-level information extracted in the data-extraction matrix was reviewed and harmonised to enable systematic comparison across studies. Theoretical frameworks, acceptance- and trust-related constructs, technologies, stakeholder groups, application contexts, determinants, methodological characteristics, and principal findings were coded using predefined categories where appropriate and inductively derived categories when additional variation emerged from the included literature. Categories were applied consistently across the corpus while retaining the original study-level information. Information that could not be reliably established from the available reports was retained as not reported (NR) and was not inferred.
For RQ1, theoretical and conceptual approaches were classified according to the primary framework adopted in each study. Studies were grouped into

TAM-family models, UTAUT/UTAUT2-family models, alternative theoretical or conceptual frameworks, and studies investigating technology acceptance, adoption, usability, acceptability, or actual use without a formal technology-acceptance model. Trust was analysed separately according to whether it was operationalised as an explicit construct or variable, represented through qualitative or conceptually related themes, addressed through adjacent dimensions such as privacy, transparency, explainability, fairness, ethics, or confidence, or not assessed as a distinct construct.

For RQ2, determinants of technology acceptance and trust were coded from the empirical findings of the included studies and subsequently organised into higher-order thematic domains. These comprised perceived value, usefulness, or performance expectancy; ease of use, effort, usability, or interaction quality; organisational support, resources, and facilitating conditions; skills, digital or AI literacy, self-efficacy, and readiness; social, stakeholder, and contextual influences; accessibility, personalisation, and contextual fit; affective, motivational, and habit-related factors; and trust-, transparency-, privacy-, and ethics-related factors. Because individual studies frequently identified determinants belonging to more than one domain, these categories were treated as non-mutually exclusive.

For RQ3, an evidence-mapping approach was used to describe the distribution of the literature according to technology type, target population, stakeholder group, and application context. A primary technology category and a primary application-context category were assigned to each study to characterise the overall distribution of the evidence base; these categories were therefore treated as mutually exclusive. Stakeholder categories were allowed to overlap when individual studies involved more than one participant or stakeholder group and were consequently treated as non-mutually exclusive.

For RQ4, theoretical, methodological, and empirical gaps were identified through an integrative comparison of the extracted evidence rather than through a priori assumptions regarding limitations of existing technology-acceptance frameworks. Theoretical gaps were examined in relation to the distribution and integration of acceptance, trust, accessibility, transparency, privacy, and ethical constructs. Methodological gaps were identified from recurring study characteristics and limitations, including reliance on cross-sectional or self-reported data, small or pilot samples, proxy or professional evaluation, and limited investigation of longitudinal or sustained technology use. Empirical gaps were examined through the distribution of technologies,

stakeholder groups, target populations, and application contexts. Findings from the MMAT appraisal were considered descriptively when interpreting the methodological strengths and limitations of the evidence base.

Descriptive frequencies and percentages were calculated for categories that could be consistently coded across the 42 included studies. Percentages were calculated using the total number of included studies as the denominator unless otherwise specified. For non-mutually exclusive domains, percentages represent the proportion of included studies in which a given domain was identified and were therefore not expected to sum to 100%. These descriptive statistics were used to characterise the distribution of the evidence rather than to estimate pooled effects or associations.

The synthesis was conducted iteratively to preserve study-level context while enabling systematic comparison across theoretical frameworks, determinants, technologies, populations, stakeholder groups, and application settings. Interpretive conclusions were based on patterns of convergence, divergence, and underrepresentation across the included studies and were kept analytically distinct from the descriptive results.

3. Results

3.1 Study Selection

The database searches identified 127 records, comprising 91 records from Scopus, 19 from PubMed, and 17 from ERIC. Following duplicate removal, 98 unique records remained. Two records were subsequently removed before title and abstract screening because they fell outside the predefined publication period (1 January 2021–31 August 2026), leaving 96 records for title and abstract screening.

Of the 96 records screened, 47 were excluded because they did not meet the predefined eligibility criteria. Consequently, 49 reports were sought for full-text retrieval. Six reports could not be retrieved despite targeted attempts to locate the complete reports through publisher websites, academic databases, institutional repositories, and other scholarly sources. Therefore, 43 reports were assessed for eligibility at the full-text stage.

One report was excluded following full-text assessment because the study population did not meet the predefined eligibility criteria. Although the study examined technology acceptability in relation to ADHD symptomatology, participants comprised young adult women with obesity in whom ADHD was

identified through symptom screening rather than a defined ADHD or neurodivergent study population.
The final systematic review therefore included 42 studies.
The complete study-selection process is presented in the PRISMA 2020 flow diagram (Figure 1).

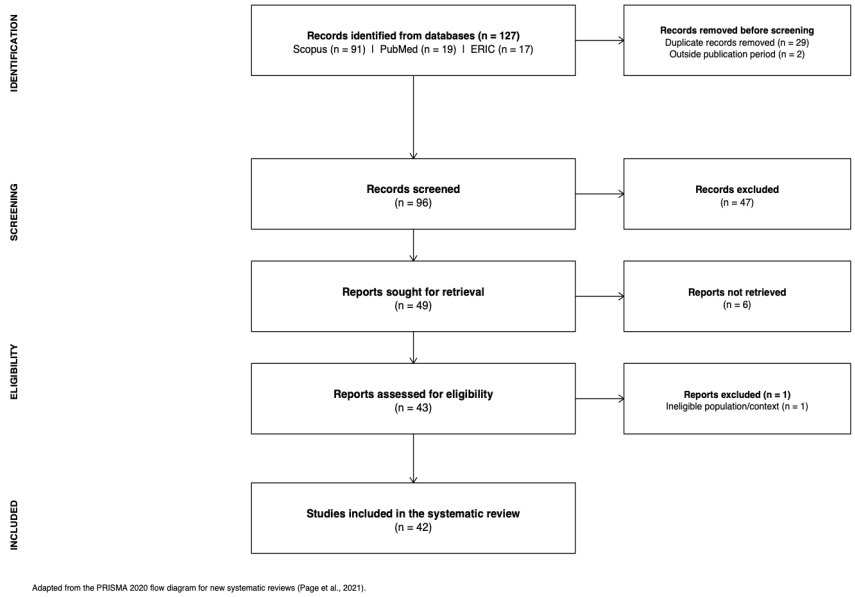


Figure 1: PRISMA 2020 flow diagram of the study selection process

3.2 Characteristics of the Included Studies

The 42 included studies were published between 2021 and 2026 and represented a heterogeneous body of research spanning educational, clinical, rehabilitation, employment, communication, and independent-living contexts. Studies were conducted across a geographically diverse range of settings, including countries in Europe, Asia, the Middle East, Africa, and North America. For a small number of studies, the country in which the empirical research was conducted could not be reliably established from the available report and was therefore coded as not reported (NR), rather than inferred from author affiliations.
The included studies employed quantitative, qualitative, mixed-methods, pilot, user-evaluation, design-based, and technology-development approaches. Sample sizes varied substantially, ranging from small-scale

evaluations involving approximately ten participants to large survey-based investigations involving more than 1,000 participants. This methodological diversity reflected the different purposes of the studies, which ranged from early-stage usability and acceptability evaluations to large-scale investigations of technology adoption and behavioural intention.

The populations and stakeholder groups represented in the evidence base included neurodivergent individuals and people with disabilities, students and learners, teachers and special educators, pre-service teachers and higher-education faculty, parents and caregivers, healthcare and rehabilitation professionals, and managerial or other relevant stakeholders. Some studies directly involved neurodivergent or disabled technology users, whereas others investigated acceptance through educators, caregivers, professionals, or institutional stakeholders.

The technologies investigated were similarly heterogeneous and included artificial intelligence and generative AI systems, machine-learning applications, assistive technologies and augmentative and alternative communication systems, serious games, virtual and immersive technologies, socially assistive or educational robots, digital and mobile learning environments, and telehealth or multi-technology service ecosystems.

Considerable variation was also observed in the theoretical approaches used to investigate technology acceptance and adoption. Studies employed the Technology Acceptance Model (TAM) and its extensions, the Unified Theory of Acceptance and Use of Technology (UTAUT/UTAUT2), combinations of acceptance models with complementary theoretical frameworks, and alternative human-centred, participatory, educational, or technology-adoption approaches. Several studies investigated usability, acceptability, integration, or actual technology use without adopting a formal technology-acceptance framework.

The principal characteristics of all included studies are summarised in Table 2, while the complete study-level extraction is provided in Supplementary Table S2.

3.3 Methodological Quality of the Included Studies

The methodological quality of the 42 included studies was assessed using the Mixed Methods Appraisal Tool (MMAT), version 2018. According to the MMAT design classification, 19 studies were classified as quantitative descriptive studies (45.2%), 12 as mixed-methods studies (28.6%), six as

quantitative non-randomized studies (14.3%), and five as qualitative studies (11.9%). No included study was classified as a randomized controlled trial.

Across the 42 studies, the appraisal generated 210 primary design-specific criterion ratings. Of these, 155 (73.8%) were rated “Yes”, 14 (6.7%) were rated “No”, and 41 (19.5%) were rated “Can’t tell”. These proportions are reported solely to describe the distribution of criterion-level judgements across the evidence base and should not be interpreted as an overall methodological quality score.

Quantitative descriptive studies constituted the largest methodological category (n = 19). Across their 95 design-specific criterion ratings, 65 (68.4%) were rated “Yes”, 10 (10.5%) “No”, and 20 (21.1%) “Can’t tell”. Methodological uncertainty in this group was primarily associated with aspects such as sample representativeness and the assessment or reporting of non-response bias, whereas the appropriateness of measurement and statistical analysis was more consistently supported across studies.

Among the six quantitative non-randomized studies, 16 of 30 criterion ratings (53.3%) were rated “Yes”, four (13.3%) “No”, and ten (33.3%) “Can’t tell”. Uncertainty was particularly evident where reports provided insufficient information to establish representativeness, completeness of outcome data, control of potential confounding factors, or whether the intervention or exposure had occurred as intended.

The five qualitative studies generally demonstrated stronger methodological coherence, with 23 of 25 criterion ratings (92.0%) rated “Yes” and two (8.0%) rated “Can’t tell”; no criterion was rated “No”.

For the 12 mixed-methods studies, 51 of the 60 primary mixed-methods criterion ratings (85.0%) were rated “Yes” and nine (15.0%) “Can’t tell”, with no ratings of “No”. In accordance with MMAT guidance, the qualitative and relevant quantitative components of these studies were additionally examined alongside the mixed-methods criteria. The principal areas of uncertainty concerned the extent to which qualitative and quantitative components were explicitly integrated, the interpretation of the outputs of this integration, and the reporting or treatment of potential divergences between components.

Overall, the methodological appraisal identified a heterogeneous evidence base in which many methodological criteria were adequately addressed, while recurrent uncertainties remained in relation to sampling and representativeness, non-response, control of confounding, and

methodological integration in mixed-methods research. Studies were not excluded from the synthesis on the basis of MMAT judgements; instead, criterion-level methodological strengths and limitations were considered when interpreting the review findings.
A summary of the methodological appraisal is presented in Table 3, while the complete study-level MMAT assessment is provided in Supplementary Table S3.

3.4 Theoretical Models and Trust Constructs (RQ1)

The first research question examined the theoretical models and constructs used to investigate technology acceptance and trust across the included studies. Overall, the evidence base was predominantly grounded in established technology-acceptance frameworks, although considerable variation was observed in the way these models were extended or combined with other theoretical perspectives.
The Technology Acceptance Model (TAM) represented the most frequently adopted theoretical approach. Nineteen of the 42 included studies (45.2%) used TAM, a TAM extension, or a framework integrating TAM constructs with additional theoretical dimensions. UTAUT- and UTAUT2-based approaches were identified in nine studies (21.4%). Taken together, TAM- and UTAUT-family approaches accounted for 28 studies (66.7%) of the included evidence base.
Seven studies (16.7%) adopted alternative theoretical or conceptual approaches. These included human-centred and participatory-design perspectives, explainable-AI and fairness-related frameworks, the Elaboration Likelihood Model, the Ability–Motivation–Opportunity framework, and human-factors approaches. A further seven studies (16.7%) investigated technology acceptance, usability, integration, acceptability, or actual use without adopting a formal technology-acceptance model.
Across TAM- and UTAUT-based studies, frequently investigated constructs included perceived usefulness or performance expectancy, perceived ease of use or effort expectancy, behavioural intention, facilitating conditions, social influence, self-efficacy, and actual or intended technology use. Several studies extended these conventional acceptance constructs by incorporating dimensions related to accessibility, personalisation, digital or AI literacy, institutional support, readiness, affective responses, or contextual characteristics.

Trust, however, was less frequently operationalised as a distinct theoretical construct. Only three studies (7.1%) explicitly modelled trust as a variable within the acceptance or adoption process. Across these studies, trust was examined as a predictor of willingness to adopt technology, as a mediating mechanism associated with continued-use intention, or as an emotional trust construct related to technology acceptance.

Two additional studies (4.8%) addressed trust through qualitative or conceptually related themes rather than as a formally operationalised variable. A further four studies (9.5%) investigated constructs adjacent to trust—including privacy, ethical concerns, confidence, or human-factor considerations—without explicitly defining or measuring trust as an independent construct.

In the remaining 33 studies (78.6%), trust was not assessed as a distinct construct. Thus, although acceptance and adoption were commonly examined through established theoretical frameworks, the conceptualisation of trust varied substantially across the evidence base.

The distribution of theoretical approaches and representations of trust is summarised in Table 4.

Table 4: Distribution of theoretical approaches and representation of trust across the included studied (n=42)

Category	Studies, n	%
Theoretical approach		
TAM family / TAM-integrated models	19	45.2
UTAUT / UTAUT2 family / integrated models	9	21.4
Alternative theoretical or conceptual frameworks	7	16.7
No formal technology-acceptance model	7	16.7
Representation of trust		
Explicit trust construct or variable	3	7.1
Qualitative or conceptually related trust themes	2	4.8
Adjacent constructs (e.g., privacy, ethics, confidence, human factors)	4	9.5
No distinct trust construct	33	78.6

Note. The four theoretical-approach categories are mutually exclusive and sum to 42 studies. The four trust-representation categories are also mutually exclusive and sum to 42 studies. TAM = Technology Acceptance Model; UTAUT = Unified Theory of Acceptance and Use of Technology.

3.5 Determinants of Technology Acceptance and Trust (RQ2)

The second research question examined the factors associated with technology acceptance and trust across the included studies. The synthesis identified eight higher-order determinant domains. Because individual studies frequently reported determinants belonging to more than one domain, these categories were treated as non-mutually exclusive.

Factors related to ease of use, effort, usability, and interaction quality represented the most frequently identified domain and were reported in 22 of the 42 studies (52.4%). This domain encompassed constructs such as perceived ease of use, effort expectancy, usability, ease of interaction, and characteristics of the user–technology interface.

A closely related but conceptually distinct domain concerned perceived value, usefulness, and performance expectancy, identified in 21 studies (50.0%). Studies within this domain examined the extent to which users or stakeholders perceived the technology as useful, beneficial, effective for its intended purpose, or capable of improving task, educational, professional, or everyday-life performance.

Social, stakeholder, and contextual influences were identified in 18 studies (42.9%). These included social influence, stakeholder attitudes and expectations, interpersonal or professional support, and characteristics of the social or implementation context that could facilitate or constrain technology acceptance.

Organisational support, resources, and facilitating conditions were reported in 17 studies (40.5%). Relevant factors included access to technological and institutional resources, technical support, infrastructure, training opportunities, organisational readiness, and facilitating conditions supporting technology implementation and use.

Factors concerning skills, digital or AI literacy, self-efficacy, and readiness were identified in 15 studies (35.7%). This domain reflected the importance of users' perceived capabilities, technological competence, prior knowledge, confidence in using digital technologies, and readiness to engage with emerging systems.

Accessibility, personalisation, and contextual fit were represented in 14 studies (33.3%). These factors concerned the extent to which technologies could accommodate individual needs, abilities, preferences, disability-related requirements, and specific educational, clinical, professional, or everyday-use contexts.

Affective, motivational, and habit-related factors were reported in 11 studies (26.2%). These included motivation, enjoyment, anxiety, emotional responses, perceived empathy, habit, and other affective or behavioural dispositions associated with technology engagement and intention to use.

Finally, trust-, transparency-, privacy-, and ethics-related determinants were identified in seven studies (16.7%). This domain included explicit trust as well as factors concerning algorithmic transparency, privacy, fairness,

accountability, ethical considerations, and confidence in technology-mediated processes. Consistent with the findings reported for RQ1, these dimensions were less frequently represented than conventional acceptance-related determinants such as usefulness and ease of use.

Overall, the findings indicate that technology acceptance across disability- and neurodiversity-related digital contexts was associated with a combination of technological, individual, organisational, social, and contextual factors. The distribution of determinant domains across the included studies is presented in Table 5.

Table 5: Determinants of technology acceptance and trust across the included studies (n=42)

Determinant domain	Studies, n	%
Ease of use, effort, usability, and interaction quality	22	52.4
Perceived value, usefulness, and performance expectancy	21	50.0
Social, stakeholder, and contextual influences	18	42.9
Organisational support, resources, and facilitating conditions	17	40.5
Skills, digital/AI literacy, self-efficacy, and readiness	15	35.7
Accessibility, personalisation, and contextual fit	14	33.3
Affective, motivational, and habit-related factors	11	26.2
Trust, transparency, privacy, and ethics	7	16.7

Note. Categories were non-mutually exclusive because individual studies could report determinants belonging to more than one domain. Percentages therefore represent the proportion of the 42 included studies in which each determinant domain was identified and do not sum to 100%.

3.6 Technologies, Stakeholders, and Application Contexts (RQ3)

The third research question examined the technologies, stakeholder groups, and application contexts represented across the 42 included studies.

Technology types. Artificial intelligence-related technologies represented the largest primary technology category. Nineteen studies (45.2%) investigated artificial intelligence, generative AI, machine-learning, or other intelligent systems. Assistive technologies and augmentative and alternative communication systems accounted for nine studies (21.4%). Five studies (11.9%) primarily investigated digital or mobile learning applications, three (7.1%) virtual, immersive, or metaverse technologies, three (7.1%) socially assistive or educational robots, two (4.8%) serious games, and one (2.4%) a telehealth or multi-technology service ecosystem. Because technologies were classified according to the primary technological focus of each study, these categories were mutually exclusive.

Stakeholder groups. Teachers, special educators, pre-service teachers, or higher-education faculty participated in 23 studies (54.8%). Direct participation of neurodivergent individuals or people with disabilities was

identified in 15 studies (35.7%). Parents or caregivers were represented in five studies (11.9%), clinical or service professionals in five (11.9%), and managerial, administrative, supervisory, expert, or other institutional stakeholders in five (11.9%). Stakeholder categories were non-mutually exclusive because individual studies could involve multiple participant groups.

Application contexts. School-based special or inclusive education and teacher-professional practice represented the predominant primary application context, accounting for 26 studies (61.9%). Six studies (14.3%) were primarily situated within clinical, rehabilitation, or autism-service contexts, four (9.5%) in higher-education settings, two (4.8%) in employment or workplace contexts, two (4.8%) in AAC, daily-living, or independence-related contexts, and two (4.8%) in broader digital-skills or digital-access contexts. Primary application-context categories were treated as mutually exclusive.

Overall, the evidence map demonstrated substantial technological and stakeholder diversity alongside a marked concentration of studies involving AI-related technologies and educational settings. The distribution is summarised in Table 6.

Table 6: Evidence map of technologies, stakeholder groups, and application contexts across the included studies (n=42)

Evidence-map dimension	Studies, n	%
Primary technology		
AI / GenAI / ML / intelligent systems	19	45.2
Assistive technology / AAC	9	21.4
Digital/mobile learning and applications	5	11.9
VR / immersive / metaverse technologies	3	7.1
Socially assistive / educational robots	3	7.1
Serious games	2	4.8
Telehealth / multi-technology ecosystem	1	2.4
Stakeholder group		
Teachers / pre-service teachers / faculty / educators	23	54.8
Direct disabled/neurodivergent users	15	35.7
Parents / caregivers	5	11.9
Clinical / service professionals	5	11.9
Managerial / administrative / supervisory / expert stakeholders	5	11.9
Primary application context		
School / special-inclusive education / teacher practice	26	61.9
Clinical / rehabilitation / autism services	6	14.3
Higher education	4	9.5
Employment / workplace	2	4.8
AAC / daily living / independence	2	4.8
Broader digital skills / access	2	4.8

Note. Primary technology and primary application-context categories were mutually exclusive and each sum to 42 studies. Stakeholder categories were non-mutually exclusive because individual studies could include more than one stakeholder group; stakeholder percentages therefore do not sum to 100%. AAC = augmentative and alternative communication; AI = artificial intelligence; GenAI = generative artificial intelligence; ML = machine learning; VR = virtual reality.

3.7 Theoretical, Methodological, and Empirical Gaps (RQ4)

The fourth research question examined theoretical, methodological, and empirical gaps emerging from the included evidence. The synthesis identified several recurrent evidence-base imbalances concerning the theoretical integration of acceptance and trust, study design, investigation of sustained technology use, stakeholder representation, and application contexts.

Theoretical gaps. The evidence base was strongly concentrated around established technology-acceptance frameworks, with TAM- and UTAUT-family models used in 28 of the 42 studies (66.7%). In contrast, trust was operationalised as an explicit construct or variable in only three studies (7.1%). Additional studies addressed trust indirectly through qualitative themes or adjacent dimensions such as transparency, privacy, fairness, ethics, or confidence, but these constructs were not consistently incorporated into formal acceptance models. Accessibility, personalisation, transparency, privacy, ethical considerations, user capabilities, and contextual support were represented across different studies, but their conceptualisation and integration varied considerably.

Methodological gaps. Seventeen studies (40.5%) relied predominantly on cross-sectional or self-reported data, while eight studies (19.0%) involved small samples, pilot evaluations, or Work-in-Progress designs. Six studies (14.3%) relied primarily on professional, caregiver, or other proxy perspectives rather than direct evaluation by intended disabled or neurodivergent end users. Only three studies (7.1%) explicitly examined continued intention, continued use, or other sustained-use outcomes. The MMAT appraisal additionally identified recurrent uncertainty concerning sampling and representativeness, non-response, potential confounding, and methodological integration in mixed-methods research.

Empirical gaps. Educator-related stakeholders were represented in 23 studies (54.8%), whereas direct participation of disabled or neurodivergent users was identified in 15 studies (35.7%). Twenty-six studies (61.9%) were primarily situated in school, special or inclusive education, or teacher-professional contexts. By comparison, employment and workplace contexts accounted for two studies (4.8%), AAC, daily-living, or independence-related contexts for two (4.8%), broader digital-skills or access contexts for two (4.8%), and clinical, rehabilitation, or autism-service contexts for six studies (14.3%).

Taken together, these findings identify an evidence base characterised by substantial research on established technology-acceptance constructs and educational applications, alongside comparatively limited investigation of explicit trust, sustained technology use, direct end-user perspectives, and several life contexts beyond education. These patterns are interpreted as evidence-base imbalances rather than evidence that existing technology-acceptance frameworks are inherently insufficient. Their theoretical and practical implications are considered in the Discussion.

The principal gaps identified across the evidence base are summarised in Table 7.

Table 7: Evidence-base imbalaces identified across theoretical, methodological, stakeholder, and contextual dimensions (n=42)

Gap domain	Evidence-base indicator	Studies, n	%
Theoretical	TAM/UTAUT-family concentration	28	66.7
Theoretical	Explicit trust operationalisation	3	7.1
Methodological	Cross-sectional/self-report predominance	17	40.5
Methodological	Small-sample, pilot, or Work-in-Progress studies	8	19.0
Methodological	Proxy/professional rather than direct end-user evaluation	6	14.3
Longitudinal	Explicit continued/sustained-use investigation	3	7.1
Stakeholder	Direct disabled/neurodivergent users represented	15	35.7
Context	Education as primary application context	26	61.9

Note. Indicators summarise selected evidence-base patterns identified across the 42 included studies. Percentages are calculated using the full review corpus (n = 42) as the denominator. Indicators are descriptive and should not be interpreted as measures of methodological quality or as evidence that TAM/UTAUT frameworks are inherently insufficient. TAM = Technology Acceptance Model; UTAUT = Unified Theory of Acceptance and Use of Technology.

4. Discussion

4.1 Principal Findings

This systematic review synthesised 42 empirical studies investigating technology acceptance, adoption, use, and trust across digital technologies involving neurodivergent individuals, people with disabilities, and relevant stakeholder groups. The findings reveal a technologically heterogeneous evidence base, with a substantial concentration of studies investigating artificial intelligence and intelligent systems and a predominant focus on educational contexts.

Four principal findings emerged. First, established technology-acceptance frameworks remain central to the literature. TAM- and UTAUT-family approaches were identified in 28 of the 42 studies (66.7%), demonstrating their continued relevance for examining perceived usefulness, perceived ease of use, performance expectancy, effort expectancy, behavioural intention, social influence, facilitating conditions, and related adoption processes. At the same time, the included studies frequently incorporated additional individual, organisational, social, accessibility-related, and contextual dimensions.

Second, trust occupied a substantially less consolidated theoretical position. Only three studies (7.1%) operationalised trust as an explicit construct or variable, although additional studies addressed transparency, privacy, fairness, ethics, confidence, accountability, and related dimensions. Trust therefore emerged not as an absent consideration, but as a construct that was conceptualised and operationalised inconsistently across the literature.

Third, acceptance was associated with multiple interacting determinant domains. Ease of use, effort, usability, and interaction quality (52.4%) and perceived value, usefulness, or performance expectancy (50.0%) were the most frequently represented. However, social and contextual influences (42.9%), organisational support and facilitating conditions (40.5%), skills, digital or AI literacy, self-efficacy and readiness (35.7%), and accessibility, personalisation and contextual fit (33.3%) were also recurrent. These findings indicate that technology acceptance in inclusive digital environments is associated not only with perceptions of the technological system itself, but also with individual capabilities and the social and organisational contexts in which technologies are introduced and used.

Fourth, the evidence base showed several methodological and empirical imbalances. Cross-sectional and self-reported designs remained common, explicit investigation of continued or sustained use was rare, and educational contexts and educator stakeholders were more frequently represented than several other life domains and direct disabled or neurodivergent end users.

4.2 Technology Acceptance Beyond Core TAM and UTAUT Constructs

The prominence of TAM and UTAUT across the included literature is consistent with their established role in technology-adoption research. TAM conceptualises perceived usefulness and perceived ease of use as central determinants of technology acceptance, while UTAUT integrates performance expectancy, effort expectancy, social influence, and facilitating conditions into a broader account of behavioural intention and technology use. The present findings indicate that these constructs remain highly relevant in disability-, neurodiversity-, and inclusion-related technology research.

Importantly, however, the evidence does not support a simple conclusion that TAM or UTAUT are inadequate for inclusive digital technologies. Rather, the reviewed studies demonstrate that researchers frequently extend, combine, or contextualise established acceptance constructs when investigating technologies used within complex educational, clinical, professional, and everyday environments.

This pattern is particularly evident in the determinants identified in RQ2. Alongside usefulness and usability, acceptance was associated with digital and AI literacy, self-efficacy, readiness, organisational resources, institutional support, social influences, accessibility, personalisation, and contextual fit.

These dimensions suggest that technology acceptance is embedded within both the capabilities of users and the environments in which technology is introduced.

For neurodivergent individuals and people with disabilities, this contextual dimension may be particularly relevant. A technology may be perceived as useful in principle while remaining difficult to access, insufficiently personalised, poorly aligned with individual support needs, or difficult to integrate into existing educational, clinical, occupational, or everyday routines. Future acceptance research may therefore benefit from examining conventional acceptance constructs alongside accessibility, individual capabilities, environmental supports, and person–technology–context fit.

4.3 Trust as an Emerging Dimension of Inclusive Technology Acceptance

One of the clearest findings of this review concerns the comparatively limited explicit operationalisation of trust. Only three of the 42 included studies modelled trust as a distinct variable, despite the substantial representation of AI, generative AI, machine-learning systems, and other data-driven technologies within the evidence base.

This finding requires careful interpretation. It does not imply that the remaining studies disregarded issues relevant to trust. Transparency, privacy, fairness, accountability, ethical concerns, confidence, and human-factor considerations appeared across several studies. Rather, the evidence indicates substantial conceptual heterogeneity in how trust-related phenomena were represented.

Acceptance of a technology and trust in that technology are conceptually related but should not automatically be treated as equivalent. A user may perceive a system as useful and easy to use while remaining uncertain about how personal data are processed, how algorithmic recommendations or outputs are generated, whether those outputs are reliable or fair, or whether appropriate human oversight and accountability are maintained.

These considerations may be particularly relevant in inclusive digital environments because technologies can mediate learning, communication, therapeutic or clinical support, employment, and everyday autonomy. Trust may therefore involve not only confidence in technical performance but also perceptions of transparency, privacy, fairness, predictability, accountability, accessibility, and the organisations or professionals responsible for technology implementation.

Future research should consequently examine more explicitly whether trust functions as an antecedent, mediator, moderator, outcome, or dynamically evolving property of technology use, rather than assuming that it is adequately represented by general measures of acceptance or behavioural intention.

4.4 Towards an Integrated Understanding of Acceptance and Trust

Taken together, the findings suggest that technology acceptance in inclusive digital environments can be understood as a multidimensional process situated within the interaction between characteristics of the technology, characteristics and capabilities of the user, and characteristics of the implementation context.

Across the reviewed studies, several dimensions repeatedly intersected: perceived usefulness and usability; individual skills, digital or AI literacy, self-efficacy, and readiness; accessibility and personalisation; social and stakeholder influences; organisational resources and facilitating conditions; and trust-related considerations including transparency, privacy, fairness, and ethical assurance.

Rather than demonstrating the need to replace established acceptance models, these findings provide a basis for examining how these dimensions might be more systematically connected. TAM and UTAUT provide established constructs for understanding technology acceptance and behavioural intention, while the broader evidence identified in this review highlights potentially complementary dimensions relevant to inclusive digital ecosystems.

An integrated perspective may therefore conceptualise acceptance not as an isolated decision made by an individual user, but as a process situated within a broader person–technology–context relationship. Within such a perspective, accessibility and personalisation concern the fit between technology and individual needs; capabilities and digital literacy concern users' ability to meaningfully engage with the technology; organisational and social support concern the conditions that enable its implementation and continued use; and trust-related dimensions concern whether the technology and its surrounding ecosystem are perceived as sufficiently reliable, transparent, safe, fair, and accountable.

However, the present review does not establish that any particular integrated model is superior to existing frameworks, nor does it validate a

new theoretical model. Instead, it identifies empirically recurring dimensions and evidence-base patterns whose relationships require prospective theoretical development, operationalisation, and comparative empirical testing.

4.5 Implications for Research, Design, and Practice

The findings have several implications for future research. Longitudinal studies are needed to distinguish initial acceptance from continued adoption and sustained use. Only three studies explicitly examined continued or sustained-use outcomes, limiting current understanding of how acceptance and trust may change following prolonged interaction with digital technologies.

Greater direct involvement of neurodivergent individuals and people with disabilities is also warranted. Although direct users were represented in 15 studies, educator-related stakeholders appeared considerably more frequently. Teachers, caregivers, clinicians, and other professionals provide important perspectives, but proxy evaluations cannot fully substitute for the experiences, priorities, and perceptions of intended technology users.

Methodologically, future studies should, where feasible, complement self-report measures with behavioural, usage, or longitudinal data and examine how behavioural intention relates to actual and sustained technology use. More consistent operationalisation of trust would also facilitate comparison across studies. Rather than treating privacy, transparency, fairness, confidence, ethics, and trust as interchangeable concepts, future research should explicitly specify their theoretical relationships and measurement properties.

For technology designers and developers, the findings suggest that technical usability alone may not be sufficient to support meaningful adoption. Accessibility, personalisation, explainability, privacy protection, user control, and compatibility with users' capabilities and environments should be considered throughout technology design and evaluation.

For educational, clinical, rehabilitation, employment, and service organisations, implementation strategies should similarly consider training, digital and AI literacy, infrastructure, technical support, stakeholder participation, accessibility, and institutional governance. Technology acceptance should therefore be understood not solely in relation to the characteristics of the technological system or the individual user, but also in

relation to the conditions provided by the surrounding implementation environment.

4.6 Strengths and Limitations

This review has several strengths. It integrated empirical evidence across multiple forms of digital technology, populations, stakeholder groups, and application contexts and did not restrict eligibility to studies explicitly adopting TAM or UTAUT. This approach enabled the synthesis to capture both established technology-acceptance frameworks and alternative theoretical or conceptual perspectives, as well as studies investigating acceptance, adoption, actual use, usability, acceptability, or trust without explicitly adopting a formal technology-acceptance model. The structured extraction framework further enabled systematic comparison of theoretical models, acceptance constructs, trust-related dimensions, determinants, technologies, stakeholder groups, and application contexts across the 42 included studies.

A further strength concerns the treatment of trust. The review distinguished studies explicitly operationalising trust as a construct or variable from those addressing trust through qualitative or conceptually related themes and from studies investigating adjacent dimensions such as privacy, transparency, explainability, fairness, ethical concerns, or confidence. This conservative approach reduced the risk of treating conceptually related constructs as equivalent to trust and therefore of overestimating its explicit representation within the evidence base.

Several limitations should nevertheless be acknowledged. First, the systematic searches were restricted to Scopus, PubMed, and ERIC and to English-language publications published between 1 January 2021 and 31 August 2026. Relevant studies indexed exclusively in other bibliographic databases or published in other languages may therefore not have been captured. Google Scholar and supplementary searching were used to support full-text retrieval and citation searching rather than as primary sources for the identification of the review corpus.

Second, six reports identified during the search and screening process could not be retrieved despite targeted attempts to locate the complete reports through publisher websites, academic databases, institutional repositories, and other scholarly sources. These reports could therefore not undergo full-

text eligibility assessment, and their absence may have affected the comprehensiveness of the final evidence base.

Third, data extraction was conducted by a single reviewer using a structured extraction matrix. Unclear or incomplete study-level information was subjected to targeted verification against available full-text reports and, where necessary, other accessible primary academic sources, and information that could not be reliably established was retained as not reported rather than inferred. Nevertheless, the absence of independent duplicate data extraction may have increased the possibility of reviewer-level extraction or classification error.

Fourth, methodological quality appraisal using the MMAT was also conducted by a single reviewer. To strengthen consistency, uncertain criterion-level judgements were subjected to targeted second-pass verification against accessible full-text reports, publisher versions, open-access repositories, and other primary academic sources. However, the absence of an independent second appraisal may have introduced some subjectivity into the methodological assessment.

Fifth, the methodological, technological, population, and outcome heterogeneity of the included studies precluded statistical meta-analysis. The evidence was therefore synthesised using structured narrative, thematic, and descriptive approaches. Consequently, the frequencies and percentages reported in this review describe the distribution of characteristics within the available evidence base and should not be interpreted as pooled estimates of effects or associations.

Finally, the categorisation of theoretical models, determinants, technologies, stakeholder groups, and application contexts necessarily involved analytical judgement. Categories were defined systematically and applied consistently across the included studies, but alternative classifications remain possible, particularly for studies involving multiple technologies, stakeholder groups, overlapping contexts, or conceptually related constructs.

5. Conclusions

This systematic review synthesised 42 empirical studies examining technology acceptance, adoption, use, and trust across digital technologies involving neurodivergent individuals, people with disabilities, and relevant stakeholders. The evidence base encompassed a broad range of digital technologies and application settings, with a substantial representation of

artificial intelligence and intelligent systems and a marked concentration of studies in educational contexts.

TAM- and UTAUT-family models remained the predominant theoretical approaches, accounting for 28 of the 42 included studies (66.7%). Their recurrent use confirms the relevance of established acceptance constructs, including perceived usefulness, perceived ease of use, performance expectancy, effort expectancy, social influence, and facilitating conditions. At the same time, the reviewed evidence showed that technology acceptance was associated with a broader set of individual, technological, organisational, social, and contextual factors, including accessibility, personalisation, digital and AI literacy, self-efficacy, readiness, institutional support, and contextual fit.

Trust emerged as a comparatively less systematically operationalised dimension. Although several studies addressed transparency, privacy, fairness, ethics, accountability, confidence, or related considerations, only three studies (7.1%) explicitly incorporated trust as a distinct construct or variable. The findings therefore highlight a need for greater conceptual and methodological clarity regarding the relationship between technology acceptance and trust, particularly in digital environments in which AI and other data-driven technologies may influence learning, communication, support, healthcare, employment, and everyday activities.

Overall, the findings support a person–technology–context perspective in which meaningful technology adoption is situated within the interaction between characteristics of the technological system, users' needs and capabilities, and the social, organisational, and environmental conditions surrounding technology implementation. Within this perspective, acceptance, trust-related dimensions, accessibility, user capabilities, and contextual support emerge as potentially complementary components for understanding inclusive technology adoption.

Future research should examine how these dimensions interact and evolve over time, particularly in relation to actual and sustained technology use. Greater direct participation of neurodivergent individuals and people with disabilities, together with longitudinal and ecologically grounded research across life domains beyond education, is also warranted.

Rather than demonstrating the inadequacy of existing technology-acceptance models, this review identifies opportunities for their systematic extension, contextualisation, and empirical comparison within inclusive digital ecosystems. Future theoretical development should therefore

investigate whether integrating acceptance constructs with trust-related dimensions, accessibility, user capabilities, and contextual support can provide a more comprehensive account of inclusive digital technology adoption. Such integrated approaches require prospective operationalisation and empirical validation before conclusions can be drawn regarding their explanatory or predictive value.

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