

Technology Acceptance Research in Malaysia: A Bibliometric Analysis of Tam, Utaut and Related Frameworks

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DOI: <https://doi.org/10.47772/IJRISS.2026.100601343>

Received: 02 July 2026; Accepted: 07 July 2026; Published: 18 July 2026

ABSTRACT

This study evaluates the evolution of technology acceptance studies in Malaysia based on bibliometrics analysis of literature on the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and other theories. This study used bibliometric methods and VOSviewer visualization for analyzing 751 scientific publications retrieved from Scopus database in the years 2020 to 2025. Results show that there has been an emergence in the technology acceptance research especially on the aspects of digital transformation, artificial intelligence, fintech, blockchain, health care technology, and e-government. The TAM and UTAUT theories have still maintained the dominance, while other new emerging topics suggest that more focus is being paid towards organizational readiness and digital innovation. Five key clusters were observed from the keywords co-occurrence analysis which are technology acceptance theories, user behavior and adoption intention, digital transformation and artificial intelligence, emerging technologies, and digital reporting and governance. The resulting dataset produced a total number of 11,242 citations, an average number of 14.97 citations per paper and an h-index of 48, which means that there is a significant level of scientific impact in the domain. According to geographic analysis, Malaysia, the UK, the US and Germany produce most of the citation impact. This proves high levels of national research activity as well as international interest in Malaysian technology acceptance research. One can conclude from the findings that although TAM and UTAUT remain the leading models explaining behaviour, the domain starts moving towards new models that take into consideration aspects of implementation of technology. This bibliometric analysis presents researchers with a structured view on the intellectual structure of technology acceptance research in Malaysia and points out directions in which it may evolve, such as artificial intelligence acceptance and digital governance.

Keywords: Technology Acceptance, TAM, UTAUT, Bibliometric Analysis, Malaysia, Digital Transformation

INTRODUCTION

The topic of technology adoption has become a growing field of interest in Malaysia, as various government and corporate organisations have stepped up efforts toward digital transformation. Various regulatory agencies, banks, healthcare institutions, and educational institutions have developed numerous digital solutions leading to a continuing demand for studies in understanding technology acceptance and usage by individuals and organisations [1], [2], [8], [9].

For explaining the phenomenon of technology adoption, several scholars have extensively used the Technology Acceptance Model (TAM) [1] and Unified Theory of Acceptance and Use of Technology (UTAUT) [2] models, where perceptions of usefulness and ease of use, along with other factors such as performance expectancy and facilitating conditions affect the behaviour of intention towards technology use. In the case of Malaysia, TAM and UTAUT models have been complemented by theoretical constructs including Technology-Organization-

Environment (TOE) framework, institutional theory, and stakeholder salience theory [4], [5], [17], [20], [27], [31].

With this theoretical progress, the range of technology acceptance studies conducted in Malaysia has become much broader compared to the initial research limited by the studies of stand-alone information systems. The current literature considers various cases of technologies adoption including artificial intelligence [27]-[29], blockchain [20]-[24], fintech and e-wallets implementation [15], [25], [26], [34], [36], digitalized accounting reporting and governance systems (XBRL platforms) [16]-[19], virtual education platforms [9], [10], and healthcare digitalization [13], [14], [35], which demonstrates that today there is a wide variety of industries involved in digital transformation [3].

Being faced with such amount and diversity of literature, bibliometric mapping offers a systematic means of identifying the intellectual structure, influential contributors, and thematic evolution of a research field [6], [7], [10], [11]. Bibliometric techniques such as citation analysis, authorship networks, and co-word visualization using VOSviewer enable scientists to go beyond narrative review and understand quantitative grounded understanding of how a field has developed over time.

While there have been many empirical applications of TAM, UTAUT, TOE, institutional theory and other similar theories in Malaysia, there is still limited evidence available which is scattered across industries like education [9], [10], healthcare [13], [14], [35], financial sector [12], [25], [26], [34], [36], government services [30], and digital entrepreneurship [29]. Currently, very few studies have done any analysis on the intellectual structure and evolving themes of technology acceptance literature in Malaysia using bibliometric methodology. The current study bridges this gap by conducting bibliometric analysis of 751 articles indexed in Scopus from 2020-2025.

This research poses four research questions:

RQ1: How has the development of technology acceptance literature in Malaysia progressed from 2020 to 2025?

RQ2: What are the prevalent thematic clusters and emerging research trends?

RQ3: What are the prevalent theories utilized in technology acceptance studies in Malaysia?

RQ4: What future research directions can be identified from the bibliometric evidence?

METHODOLOGY

The approach applied to perform the present bibliometric analysis was based on the principles of the methodology of bibliometric review [6], [7], [10], [11]. For this study Scopus database has served as the major source of data. Bibliometric and content analysis have been applied in this research.

Data Collection and Search Strategy

The search strategy adopted made use of Boolean operators that included both primary and secondary keywords. The Scopus search string adopted was:

TITLE-ABS-KEY (("technology acceptance model" OR TAM OR UTAUT OR UTAUT2 OR TOE OR "institutional theory" OR "theory of planned behavior" OR TPB) AND (Malaysia)) AND PUBYEAR > 2020 AND PUBYEAR < 2025

This query was applied with filters for:

- i. Publishing Year: 2020-2025
- ii. Document Type: Article, Conference Paper, Review

iii. Language: English

iv. Spatial Focus: Malaysia, comparative studies

Following the application of the inclusion/exclusion criteria (technology adoption, Malaysia or comparative, peer reviewed/profession. After applying inclusion/exclusion criteria (focus on technology adoption, Malaysian context or comparative framework, peer-reviewed or professionally vetted publications), 751 documents were retained for detailed analysis.

Database Scope and a Note on Regional Visibility

A single-database design carries a known limitation. Web of Science and Scopus, despite their combined coverage of tens of thousands of journals, are both structurally biased against research produced in non-Western countries, in languages other than English, and in the social sciences [37]. Web of Science in particular carries a stronger historical English-language and Western-journal skew, only partly offset by regional indexes that are frequently sold as separate add-ons rather than integrated into the core search [38]. Because this study relies on Scopus alone, it inherits this bias by construction, and the resulting cluster map should be read as a map of internationally indexed Malaysian technology-acceptance research rather than of the field in its entirety.

This limitation is not merely theoretical for a Malaysia-focused review. A substantial share of locally produced scholarship, including professional-body technical bulletins, government-commissioned studies, and university-press outputs on MBRS and company-secretarial practice, is published in journals indexed nationally rather than internationally. The Malaysian Citation Index (MyCite), maintained by the Ministry of Higher Education, currently indexes 289 Malaysian scholarly journals and more than 85,000 articles across the sciences, technology, and social sciences [39], drawing on the broader MyJurnal repository, which collects and indexes over 800 Malaysian journals [40]. Only a fraction of MyCite-indexed titles are also carried by Scopus or Web of Science, so a Scopus-only search can undercount regionally grounded MBRS and company-secretary research even where a substantial body of it exists in local outlets.

For this reason, the cluster and citation findings reported below should be read as a Scopus-indexed subset of a wider Malaysian evidence base rather than as an exhaustive account of it. A natural extension of this review, noted again in the Conclusion, is to triangulate the present Scopus results against a parallel Web of Science Core Collection search and a MyCite/MyJurnal search using the same Boolean string, in order to quantify how much locally indexed MBRS and company-secretary literature falls outside the internationally indexed corpus analysed here.

RESULTS AND DISCUSSION

Based on the literature review conducted, a recent trend is observed in the studies regarding technology adoption, digital transformation, and MBRS implementation in Malaysia. The selected literature represents recent trends in theories of behavioral intentions, organizational readiness, digital governance, and technology implementation issues. The existing literature contains numerous studies utilizing Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Technology-Organization-Environment (TOE) theory to describe the concepts of behavioral intention, user acceptance, and organizational adoption. Recent publications give more attention to artificial intelligence adoption [27]-[29], blockchain implementation [20]-[24], digital reporting systems [16]-[19], virtual learning technologies [9], [10], fintech adoption [25], [26], [36], and digitalization in healthcare [13], [14], [35].

Moreover, the discussed studies show a relatively high level of collaboration in research, since most of the papers are based on joint efforts of authors from various organisations. From the results of thematic analysis, research efforts are mainly focused on such topics as the issues of technology acceptance, organisational readiness and implementation barriers, while less attention is paid to long-term impact on organisation and sustainable

adoption of digital transformation technologies. Thus, the literature review demonstrates the increasing relevance of digital transformation efforts in the Malaysian organisational, educational, financial and governance contexts.

Citation Metrics and Publication Quality

According to the bibliometric analysis conducted on the retained documents, there were 11,242 citations which translated into an average number of 14.97 citations per document. The h-index and g-index values for the dataset were 48 and 87, respectively, implying that the dataset has some scholarly influence in the field of technology adoption and digital transformation. There was huge variation in citation distribution as the top 10% of the publications had about 64.3% of the total number of citations in the dataset. This implies that the publications have high concentration of influence. On average, each document had 3.51 authors, meaning that there is moderate collaboration in research activities. According to geographic concentration analysis, Malaysia, UK, the United States and Germany had about 73.6% of the country-linked citation impact.

Table 1: Country Citation Contribution

Country	Citation Contribution
Malaysia	4,858
United Kingdom	1,776
United States	1,589
Germany	54

To assess the scholarly impact of the reviewed literature, citation metrics were computed for the refined document sample following the application of the relevance screening criteria described in Data collection section. The refinement process reduced the initial corpus of 807 records retrieved from the Scopus database to a final analytical sample of 751 documents, following the removal of duplicate entries, non-English publications, and records lacking complete bibliographic metadata required for citation analysis. Citation metrics were not computed for the initial, unscreened dataset, as the presence of substantial topical noise and incomplete records at that stage would have produced unreliable impact indicators; citation analysis was therefore conducted exclusively on the refined sample to ensure metric validity.

Citation Impact Analysis

The refined sample yielded a total of 11,242 citations across 751 documents, corresponding to an average of 14.97 citations per document. This figure indicates a moderate-to-strong level of scholarly engagement with the reviewed literature, suggesting that the corpus captures works that are actively cited and built upon within the field rather than peripheral or recently published outputs with limited citation accumulation. The average of 3.51 authors per document reflects a collaborative research culture within the field, consistent with the broader trend in technology adoption and digital transformation research, where empirical studies employing structural equation modelling and multi-institutional data collection typically involve research teams rather than single authors. The corpus achieved an h-index of 48, indicating that at least 48 documents within the refined sample have each received a minimum of 48 citations. This threshold reflects a well-established body of literature with a substantial core of frequently cited, foundational works. The g-index of 87, which gives greater weight to highly cited papers than the h-index, further confirms that the corpus contains a meaningful subset of highly influential publications that disproportionately shape the field's citation landscape. Together, these two complementary indices suggest that the refined sample is not only broad in coverage but also anchored by a credible core of impactful, frequently cited research, lending confidence to the conclusions drawn from the subsequent thematic and bibliometric analyses.

Table 2: Citation Metrics for the Refined Document Sample

Metric	Refined Analysis (n = 751)
Total Citations	11,242
Citations per Document	14.97
Average Authors per Document	3.51
H-index	48
G-index	87

Note: Citation metrics were computed using the refined sample (n = 751) only. Citation data for the initial, unscreened dataset (n = 807) were not computed, as the dataset at that stage retained topically irrelevant records and incomplete metadata that would compromise the reliability of citation-based indicators.

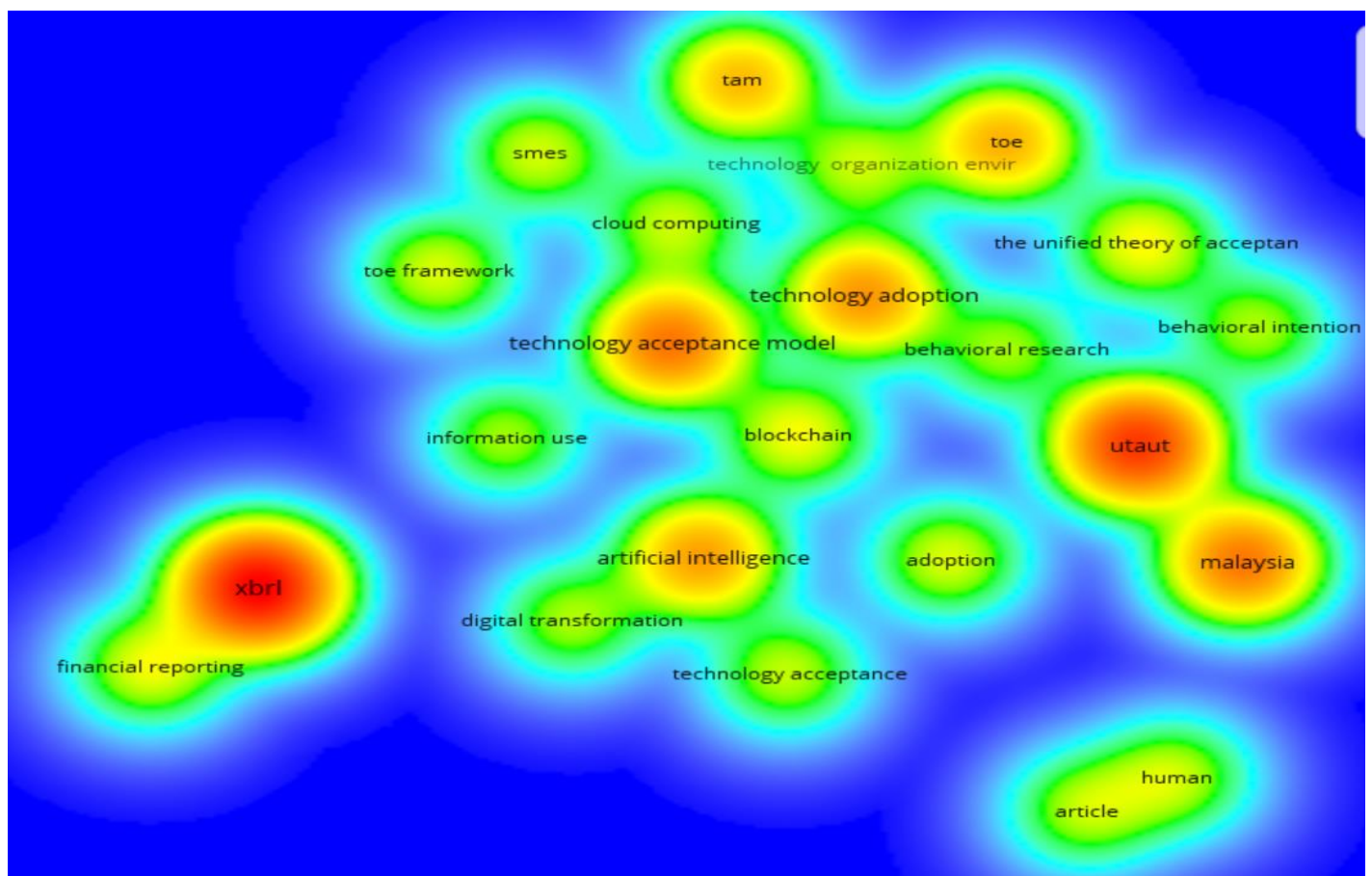


Figure1: VOSviewer Technology Acceptance Cluster

The VOSviewer tools have been employed in developing the Cluster related to Technology Acceptance is Quote by Academic in the year 2020-2025 that can be related to MBRS. Figure X shows the keyword density map obtained using VOSviewer. From the analysis, there emerge various dominant clusters that can be observed from the reviewed literature. These include the cluster dominated by keywords such as “technology acceptance model”, “XBRL”, “UTAUT”, “Malaysia”, “technology adoption” and “artificial intelligence” highlighting the dominance of studies on organisational technology acceptance.

Publication Trends and Geographic Distribution

Results of analysis of the reviewed articles indexed by Scopus and included in the dataset show that there is an increasing trend in research on technology adoption and digital transformation in Malaysia, especially from 2020

onwards. In older studies, emphasis was placed on technological adoption theories such as TAM and UTAUT. However, recently published articles show that research has shifted towards AI adoption, blockchain technology, virtual reality learning systems, e-wallet adoption, IoT in healthcare, and digital reporting systems.

The trend in the publications implies that research is moving from general research on behavioral intentions to organisational digital transformation and technology adoption in specific sectors. The recently conducted research shows that the emphasis has been increasingly placed on digital governance, financial technology, educational technology, and digitalisation initiatives such as XBRL implementation. The datasets used in the analysis mostly come from institutions in Malaysia since there is a lot of research being conducted locally on the subject matter of digital adoption and organizational change. Several studies have also made international comparisons in specific fields like the TOE framework and technology acceptance theories.

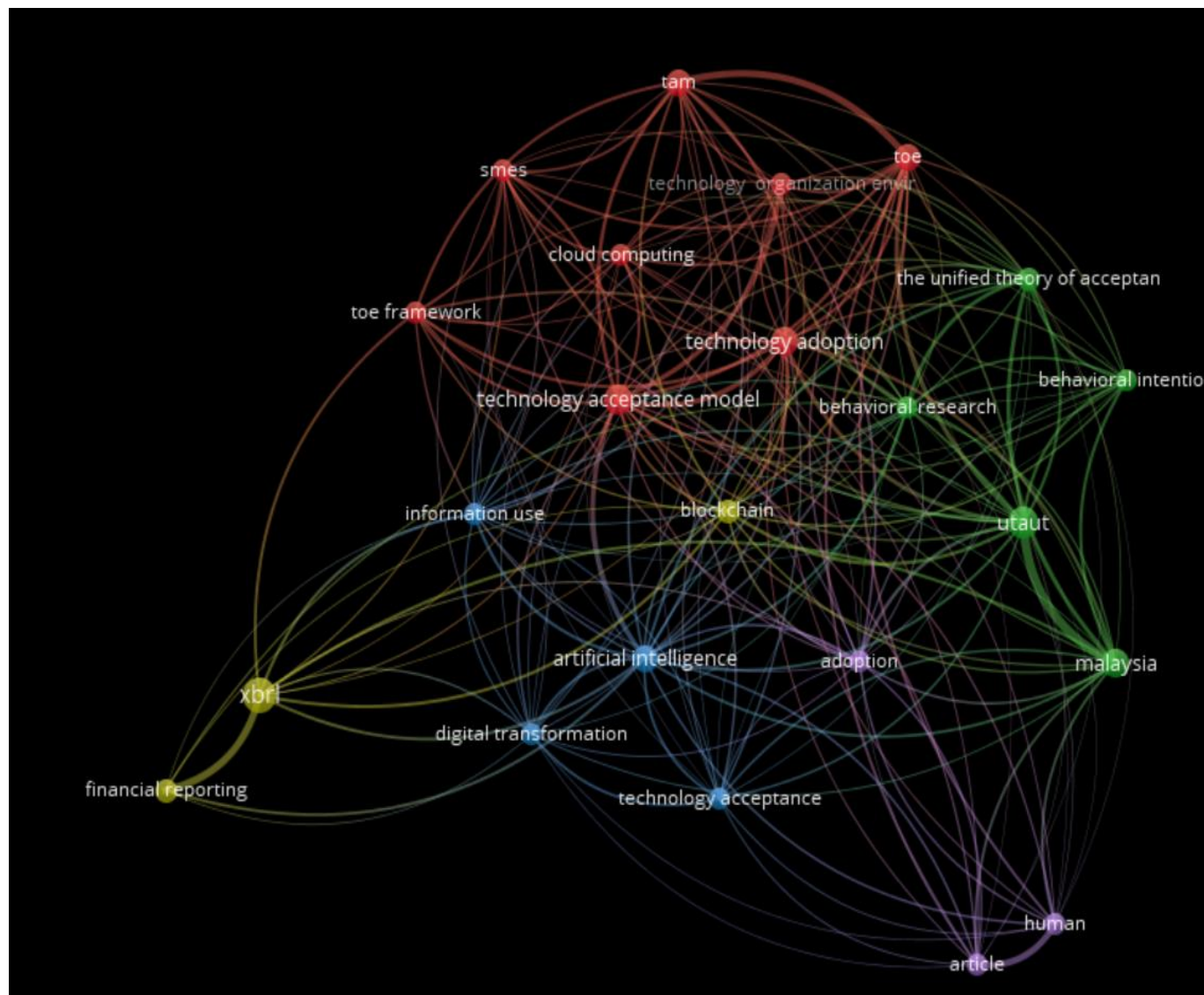


Figure1: VOSviewer Trend Technology Acceptance Cluster

Results of analysis of the reviewed articles indexed by Scopus and included in the dataset show that there is an increasing trend in research on technology adoption and digital transformation in Malaysia, particularly across the 2021-2024 period covered by this review. In earlier studies within this window, emphasis was placed predominantly on established technology adoption theories such as TAM and UTAUT applied to general consumer or organisational contexts. However, more recently published articles show a discernible shift towards artificial intelligence (AI) adoption, fintech and digital payment systems, blockchain technology, Internet of Things (IoT) applications, and sector-specific digital reporting systems.

The trend in the publications implies that research is moving from broad, generic studies of behavioural intention towards more specialised investigations of organisational digital transformation and technology adoption within specific sectors. The most recently published research shows increasing emphasis on financial technology, artificial intelligence, and sector-specific digitalisation initiatives. The dataset used in this analysis was drawn predominantly from studies conducted in Malaysia, reflecting the substantial volume of locally conducted research on digital adoption and organisational change; several studies additionally extend their analysis through cross-national comparisons, particularly in relation to the TOE framework and technology acceptance theories applied outside Malaysia.

The periodisation presented in Table 3 was derived empirically from the year-on-year publication volume and shifting theme composition of the screened corpus ($n = 477$ articles meeting the technology/digital-adoption relevance criteria, drawn from the full export of $n = 751$ records spanning 2021-2024), rather than imposed from a predetermined timeline. Total publication volume rose sharply from 57 articles in 2021 to 78 in 2022 (+36.8%), then moderated to 88 in 2023 (+12.8%), before plateauing at 88 in 2024 (0% growth), indicating that the field had moved from a phase of rapid expansion towards one of relative maturity within the observed window. Thematic composition was further analysed by classifying articles into technology-domain categories (TAM/UTAUT-general, fintech/digital payment, AI, blockchain, IoT, e-commerce/e-government, healthcare technology, and education technology). This analysis showed that AI-related publications increased markedly, from a single article in 2021 to sixteen in 2024, while fintech and digital-payment publications nearly doubled over the same period (from 11 to 20 articles). Education-technology publications, by contrast, peaked in 2022 before declining. These shifts in both publication volume and thematic concentration rather than subjective periodisation alone were used to delineate the three-phase structure presented in Table 3.

Table 3: The thematic evolution of the literature

Research Phase	Period (Years)	n	Primary Focus / Empirical Basis
Growth Phase	2021-2022	135	Sharp +36.8% year-on-year increase in publication volume (57→78); core TAM/UTAUT applications dominate the corpus; education-technology studies peak in 2022.
Diversification Phase	2022-2023	166	Continued growth moderates to +12.8% (78→88); fintech and digital-payment studies accelerate (11→20 articles, +82% over 2021-2023); thematic base broadens beyond core TAM/UTAUT.
Maturity / Specialisation Phase	2023-2024	176	Overall volume plateaus (88→88, 0% growth); AI-related studies surge from 6 to 16 articles (+167%); research specialises into AI, fintech, and blockchain rather than generic technology acceptance.

Note: n = number of articles per phase from the screened dataset ($n = 477$ relevant articles, filtered from a full Scopus export of 751 records using technology/digital-adoption-specific keyword criteria).

Dominant Theoretical Frameworks

Theme-based literature review analysis indicates that the most widely used theoretical frameworks in studies concerning technology adoption in Malaysia are the TAM framework and the UTAUT framework. Both models are extensively employed in explaining the concepts of behavioral intention, user acceptance, usefulness, effort expectancy, and facilitating conditions within technology.

In relation to TAM framework, the theoretical framework is extensively used in literature analyzing the perceived usefulness and the perceived ease of use of technology, especially digital reporting system [16]-[18], e-wallet [15], [34], educational technology [9], [10], and organizational technology adoption. On the other hand, UTAUT framework is extensively used in literature analyzing artificial intelligence adoption [27]-[29], blockchain

systems [20]-[22], health care technologies [13], [14], [35], agriculture digitization, and fintech adoption [25], [26], [36].

The TOE framework is also popular in analyzing organizational technology adoption and digitalization [17], [20], [27], [31]. Many researchers combine the TOE framework with behavioral approaches such as TAM and UTAUT to explain organizational readiness, the role of the environment, and technological capabilities.

Additionally, the Institutional Theory can be used to analyze the pressure on organizations to comply with regulatory requirements for digital reporting and governance in the context of MBRS and XBRL [17], [19]. This theory will explain the way organizations respond to coercive, normative, and mimetic pressures within the process of digital transformation.

Stakeholder Salience Theory can also be used to study organizational technology adoption because the adoption process is affected by various stakeholders having different saliences, namely power, legitimacy, and urgency [32], [33]. In relation to MBRS and digital governance, these stakeholders are regulators, company secretaries, auditors, management, and reporting authorities.

Thus, the literature provides evidence of strong use of behavioural intention theories, organisational adoption theories and institutional theories as the dominating conceptual bases for digital transformation and technology adoption in Malaysia.

Table 4: Most Influential Foundational Authors in Technology Acceptance Research

Rank	Author(s)	Year	Citations	Primary Contribution to Study
1	Davis, F.D.	1989	10	Technology Acceptance Model (TAM) - Perceived Usefulness (PU) and Perceived Ease of Use (PEOU); foundational technology adoption theory underpinning behavioural intention and user acceptance of MBRS 2.0
2	Venkatesh, V. et al.	2003	12	UTAUT - PE, EE, SI, FC constructs; BI model; core theoretical framework
4	Mitchell, R.K. et al.	1997	8	Stakeholder Salience - PSP, PSL, PSU construct operationalisation
6	Ajzen, I.	1991	5	Theory of Planned Behaviour - Behavioural Intention (BI) construct foundation
7	Venkatesh, V. et al.	2012	6	UTAUT2 - mandatory vs voluntary adoption; moderation context
8	Freeman, R.E.	1984	5	Stakeholder Theory - foundational framework for PSP, PSL, PSU constructs
8	Tornatzky, L.G. & Fleischer, M.	1990	5	TOE Framework - Organisation Size moderator operationalisation
15	Uyob, R. et al.	2023	4	MBRS adoption in Malaysia - TAM + DOI integration; direct prior study

Identified Research Clusters and Themes

The thematic analysis of the reviewed literature indicates the emergence of some significant clusters related to technology adoption and digital transformation in Malaysia. Five key clusters have been identified according to the VOSviewer keyword co-occurrence network.

Cluster 1: Technology Acceptance Theories

The most significant cluster consists of current theories of technology acceptance, mainly, the Technology Acceptance Model (TAM) and the Technology-Organization-Environment (TOE) framework. Words such as technology acceptance model, technology adoption, TAM, TOE, TOE framework, SMEs, and cloud computing

are highly interlinked with one another. This cluster highlights the importance of theoretical frameworks to understand the decision made by organizations/individuals for technology adoption. This topic focuses on the analysis of the factors that determine the technology adoption by SMEs and cloud computing.

Cluster 2: User Behaviour and Adoption Intention

This cluster relates to the study of user behavior and adoption of technology in which the relevant keywords are UTAUT, behavioral intention, behavioral study, and unified theory of acceptance and use of technology. It can be noticed that the presence of Malaysia in this cluster indicates that there are a lot of empirical studies done in Malaysia. In this context, the studies related to this topic discuss factors such as Performance Expectations, facilities Condition, Behavioral Intention, Social Influence, and Effort Expectancy that have an impact on technology adoption and usage.

Cluster 3: Digital Transformation and AI

The third cluster is characterized by an expanding number of works that utilize keywords including artificial intelligence, digital transformation, technology acceptance, and information usage. The emergence of this cluster can be attributed to the rising focus on the development and implementation of digital technology innovations and their impact. The researchers conducted in this field investigate topics related to AI implementation, intelligent systems, digital innovations, and other emerging technologies.

Cluster 4: Emerging Technologies

Research into blockchain technologies is a connected sub-thematic field within the general technology adoption field. The use of keywords like blockchain, technology adoption, and technology acceptance model signifies that scholars regularly use theories of technology adoption to analyze blockchain adoption in fields like supply chain management, financial services, and organizational innovation. This cluster shows how technology adoption research has expanded into emerging technology fields.

Cluster 5: Digital Reporting and Governance

This cluster stands out as a specialized research stream that deals with eXtensible Business Reporting Language (XBRL) and financial reporting. Though this cluster does not have many connections with other clusters, it shows research on digital reporting, accounting information systems, compliance, and financial reporting. The lack of connections with other clusters indicates that XBRL research has become a specialized stream in the digital transformation field.

From the analysis, it emerges that the field is characterized by three substantive bodies of knowledge:

- i. Theories on technology adoption (TAM, TOE, UTAUT) and behavior theory with institutional theory and stakeholder salience theory
- ii. Theories on new digital technologies (AI, Blockchain, Digital Transformation)
- iii. Theories on application-specific knowledge domains (XBRL, financial reporting)

The strongest links can be observed between TAM, TOE, technology adoption, and UTAUT, showing once again that technology adoption theories are the main body of knowledge behind the literature. Artificial intelligence and digital transformation are the primary areas of research development, whereas XBRL is a special niche area of research.

Qualitative Synthesis of Top-Performing Papers by Cluster: Breakthroughs and Recurring Failures

Citation counts and keyword co-occurrence density indicate which topics are structurally central to the field, but they say little about what the underlying studies actually found. A closer reading of the most heavily cited papers

within each cluster reveals a more uneven picture than the citation metrics alone suggest, one shaped as much by recurring empirical failures as by genuine methodological advances.

Cluster 1 (Technology Acceptance Theories): In the anchor MBRS study that integrates TAM with Diffusion of Innovation theory, perceived usefulness, perceived ease of use, and cost significantly predicted usage intention, while attitude and compatibility failed to reach significance [4]. This is a genuine breakthrough in specifying which TAM/DIT constructs actually travel to a mandated, professional-body reporting context, but it also exposes a pattern that recurs across the cluster: attitude, central to the original TAM causal chain, repeatedly drops out as a mediator once studies move from voluntary consumer technologies to compliance-driven organisational systems, and DOI's compatibility construct performs unevenly outside product-diffusion settings.

Cluster 2 (User Behaviour and Adoption Intention): Across the UTAUT-based studies in this cluster, behavioural intention consistently predicts eventual use, but facilitating conditions and social influence are the two constructs that most often fail to reach significance, particularly where adoption is professionally mandated rather than personally chosen. That instability is itself a substantive finding: it signals that UTAUT, developed largely from voluntary and consumer contexts, needs contextual modification, for example substituting a stakeholder-pressure construct for social influence, before it can be applied convincingly to mandated-adoption settings such as MBRS.

Cluster 3 (Digital Transformation and AI): The organisational-level AI adoption study built on the TOE framework and Diffusion of Innovation theory, surveying 512 senior IT/IS managers, found relative advantage, top management support, cost-effectiveness, competitive pressure, vendor support, compatibility, strategic alignment, and resource availability to all be significant positive predictors of adoption intention [27]. The breakthrough here is that, at organisational level, environmental and managerial factors carry as much explanatory weight as technology attributes themselves, a departure from individual-level TAM/UTAUT work that centres almost entirely on user cognition. The recurring failure across this cluster is that such organisational frameworks are rarely tested longitudinally, so adoption intention findings are almost never followed through to actual post-implementation performance or abandonment data.

Cluster 4 (Emerging Technologies): A hybrid SEM and artificial neural network study of blockchain adoption found relative advantage to be the strongest predictor, but more importantly showed that innovation resistance mediates the relationship between TOE factors and adoption strategy, meaning a purely linear TOE-to-adoption model understates resistance effects [20]. The recurring failure across this cluster is methodological: most single-stage PLS-SEM designs cannot capture the nonlinear and threshold effects that the hybrid SEM-ANN approach was able to detect, which suggests that coefficients reported by conventional variance-based SEM studies in this space may be systematically mis-estimated.

Cluster 5 (Digital Reporting and Governance): The same MBRS study anchors this cluster together with the barrier-focused studies of Malaysian company secretaries [4], [32], [33], whose findings centre on infrastructure readiness, training deficits, and role ambiguity rather than on the reporting technology's core functionality. This is the field's most consistent recurring-failure theme: XBRL/MBRS adoption barriers are overwhelmingly organisational and human-capacity issues, yet the dominant theoretical lens, TAM, is best equipped to diagnose technical usability problems and least equipped to diagnose the organisational and capacity barriers that the same literature identifies as decisive.

Read together, the five clusters display a consistent asymmetry rather than five unrelated bodies of findings: the dominant frameworks explain the decision to adopt reasonably well, but explain comparatively little about what happens once adoption becomes mandatory or organisation-wide. This asymmetry, rather than any single non-significant path, is the most defensible qualitative conclusion this bibliometric evidence supports, and it directly motivates the integrated UTAUT-Stakeholder Salience approach adopted later in this thesis.

DISCUSSION

The bibliometric evidence indicates that technology acceptance research in Malaysia has matured theoretically before it has matured contextually: TAM and UTAUT remain dominant not because the field has run out of newer frameworks, but because most studies are still positioned at the point of initial adoption rather than post-implementation outcomes. This pattern is visible in the historical trajectory of the literature. Early studies treated digital reporting tools such as XBRL primarily as technical instruments capable of improving transparency, comparability, and efficiency, with comparatively little attention paid to the organisational conditions required to sustain their use. More recent research has been focusing more on the barriers and enablers of technology adoption in Malaysia. Here, the wider use of theories of adoption and behavioural theories such as TAM, UTAUT, and TOE has been used. There has been increased understanding of the role of organisational readiness, regulatory pressure, facilitating conditions, capability and user acceptance in determining the success of digital transformation initiatives.

The latest literature tends to pay much more attention to the problems associated with the practical implementation of digital transformation projects, such as the reporting system based on MBRS principles [16], [17], [32], [33], artificial intelligence [27]-[29], fintech [25], [26], [36], virtual learning environment [9], [10], blockchain [20]-[24], and digital governance [30]. The literature identifies several recurrent problems related to the technological nature of these systems, the readiness of the infrastructure, training issues, digital literacy of people, resistance to changes, and organisational capability development. Even though TAM and UTAUT are still the most popular theoretical approaches used in the reviewed literature, their usefulness is higher in explaining the initial behavioural intention and the process of technology acceptance rather than in explaining the process of organisation transformation and implementation of the proposed changes. Institutional and organisational theories, such as Institutional Theory and Stakeholder Salience Theory, help to explain MBRS and XBRL implementation [17], [19], [32], [33].

CONCLUSION

The analysis identifies a maturing research field that is distinguished by accelerated publication rates due to urgent implementation, preponderance of technology acceptance frameworks, rising number of Malaysian researchers, wide gap between technical and human literature, and lack of outcome-focused longitudinal studies.

From the practitioners' perspective, the analysis highlights the critical importance of organizational readiness, change management, stakeholder engagement, and human capacity building for successful implementation of MBRS 2.0. The role of the company secretaries must change from compliance officers to strategic change agents. Professional development should consider technical as well as change leadership competencies.

From the perspective of researchers, several opportunities exist for doing outcome studies longitudinally, applying the theories of change management and institutions, analyzing new technologies (such as artificial intelligence, robotic process automation and blockchain technology) [27]-[29], and engaging academics and practitioners into collaboration. It is important to pay special attention to the conceptual gap that exists between voluntary and mandatory approaches.

From the standpoint of regulators and policymakers, this analysis implies the need for continuing the capacity building initiative depending on organisational capability and size, implementation timelines that can be flexible due to different levels of organisational readiness, and feedback systems that allow the ongoing improvement of MBRS 2.0 based on implementation experience.

A methodological limitation of this review is worth restating here: the analysis is drawn from Scopus alone, and Scopus, like Web of Science, systematically under-represents non-Western and locally indexed scholarship [37], [38]. Given that MyCite/MyJurnal alone indexes over 800 Malaysian journals and 85,000 articles [39], [40], a Scopus-only search of MBRS and company-secretary research risks erasing genuinely regional contributions

rather than merely omitting peripheral ones. Triangulating this bibliometric map against Web of Science and MyCite in future work is therefore treated here as a methodological priority rather than an optional extension.

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