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Digital Payments and Risk in E-Commerce: A Systematic Bibliometric Review and Future Research Agenda

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ABSTRACT: This study presents a systematic, bibliometric review of research on digital payments and risk in e-commerce. Following the PRISMA protocol and the four-step bibliometric procedure of Donthu et al. (2021), data were retrieved from Elsevier's Scopus database on 16 September 2026 using the search string "Digital Payments AND Risk", and 805 peer-reviewed journal articles and reviews published between 2016 and 2026 were analysed in Biblioshiny. The literature is young and expanding rapidly, with an annual growth rate of 40.38%, yet it remains concentrated in a small set of journals and countries, notably China and India. Thematic mapping and keyword co-occurrence analysis show blockchain, electronic money and risk assessment as the best-developed themes, while fintech, digital payments, financial inclusion, cryptocurrency and central bank digital currency remain weakly developed and peripheral. Research on payment infrastructure and fraud and research on consumer adoption and trust continue to develop in parallel. The paper proposes a future research agenda, structured around the 5W1H framework, that targets neglected users, the e-commerce checkout, under-represented markets, longitudinal designs and integrated models linking safeguards with consumer trust.

KEYWORDS: Digital Payments; Risk; E-Commerce; Bibliometric Analysis; FinTech.

1. INTRODUCTION

Digital payments have moved from the periphery of online retail to its operational centre, and this transition is at once the sector's greatest opportunity and its most persistent source of risk. Payment is the final and most consequential step of any e-commerce journey: it converts browsing into revenue, and the instrument that mediates it, whether a card, a wallet, a real-time bank transfer or a deferred-payment product, determines how trust is established, how fraud is contained and who absorbs the loss when something fails. The scale of the shift is now well documented. Worldpay's (2026) Global Payments Report, which draws on more than 63,000 consumers across 42 markets, finds that digital wallets accounted for 56% of global e-commerce transaction value in 2025, making them the leading online payment method worldwide, while in India wallets represented 68% of online spend. The same report forecasts that buy-now-pay-later (BNPL) will reach approximately US$500 billion of global e-commerce value by 2030. Growth of this magnitude widens the attack surface. Industry estimates suggest that global e-commerce fraud losses will more than double, from over US$40 billion in 2024 to more than US$100 billion by 2029 (ResearchAndMarkets, 2026). Taken together, these figures describe a market in which the value moving through digital channels and the value exposed to loss are rising in tandem, which gives the question of risk commercial as well as academic significance. Digital payments therefore present a paradox that scholars and practitioners can no longer afford to treat separately:

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the features that make them attractive, namely speed, convenience and frictionless access, are the same features that make misuse, manipulation and erosion of consumer confidence more likely. Understanding how academic research has responded to this paradox is the central concern of this paper.

Within e-commerce, "digital payment" is an umbrella term for any transfer of value that is initiated and settled electronically at the point of online purchase. The landscape is layered. At its base lie the payment rails: card networks, account-to-account (A2A) transfers and real-time payment systems such as India's Unified Payments Interface (UPI). Above these sit payment gateways and application programming interfaces (APIs), which authenticate the customer, route authorisation requests and tokenise credentials between merchant, acquirer and issuer. At the interface layer, mobile wallets, BNPL providers and, at the margins, cryptocurrencies and central bank digital currencies (CBDCs) present the payer with a growing choice of instruments. Early scholarship framed this ecosystem largely in terms of technical feasibility and business models (Dahlberg et al., 2008), while later work reinterpreted it as one component of a wider FinTech transformation of financial services (Gomber et al., 2018). The focus of the present paper is narrower than either strand. It concerns the risk dimension of digital payments in e-commerce, understood broadly to include fraud, security, privacy, perceived risk and trust, as that dimension is represented in the scholarly record. Risk is not peripheral in this setting. Perceived risk, with its performance, financial and privacy facets, has long been shown to inhibit the adoption of electronic services (Featherman & Pavlou, 2003), which suggests that the technical safeguards built into the payment stack and the psychological confidence of the consumer cannot be analysed in isolation. In this paper, accordingly, risk is treated as the organising concept through which the supply side of payments (infrastructure, regulation and security) and the demand side (acceptance, trust and continued use) can be examined together.

Our interest in this subject began with an observation about everyday behaviour. As routine users of UPI, wallets and one-tap checkouts, we have come to treat digital payment as almost invisible, yet we have also watched peers, relatives and small sellers hesitate at precisely the moment of payment, abandoning a purchase because of an unfamiliar authentication step or a lingering doubt about whether the money would reach the right account. The contrast between convenience for some and anxiety for others suggested to us that adoption is not simply a question of access to technology but of confidence in its safeguards. This impression was sharpened by our coursework in research methodology, which introduced systematic and bibliometric review as ways of testing such impressions against accumulated evidence rather than anecdote. It left us with a question that classroom discussion alone could not answer: when scholars write about risk in digital payments, what exactly are they studying, who is studying it, and what are they leaving out? The pandemic-driven surge in digital payment use (Demirgüç-Kunt et al., 2022) gave the question added urgency, since a sudden change in behaviour of that scale tends to outrun the evidence base meant to guide it. This paper is our attempt to map that evidence base honestly.

A close reading of the existing literature reveals three loose ends. First, the field remains divided into supply-side and demand-side streams that seldom speak to one another. Reviews of payment infrastructure, FinTech, central bank digital currencies and fraud detection concentrate on system design, regulation and monetary policy (Abdallah et al., 2016; Gomber et al., 2017; Ozili, 2023), whereas reviews of adoption and trust, built largely on technology-acceptance theory, rarely engage with those infrastructural questions (Alkhowaiter, 2020; Tamilmani et al., 2021). Risk sits at the junction of the two streams, yet it has seldom been examined as a connecting theme. Second, the empirical evidence is geographically concentrated in the Gulf states, Jordan, India and Southeast Asia (Alkhowaiter, 2020; Aljaloudi & Jaradat, 2025; Patil et al., 2020; Purwandari et al., 2022), which makes generalisation to other markets tentative. Third, most of the evidence concerns mobile payment and mobile banking rather than payment within online retail, with only a minority of studies, such as Purwandari et al. (2022), addressing e-commerce checkout directly. A methodological limitation compounds these gaps. Existing syntheses are largely narrative or thematic in design (Dahlberg et al., 2008, 2015); they report what individual studies conclude but do not quantify how the field itself has grown, which journals and authors shape it, or which themes are mature and which remain underdeveloped. Without such a structural view, researchers cannot easily judge where the next contribution is most needed. These weaknesses are not trivial, because a field that cannot see its own boundaries is prone to repeating well-studied questions in familiar markets while leaving consequential ones unexamined. A bibliometric approach is well suited to this problem, since it exposes the intellectual structure of a field at a scale that manual reading cannot match (Donthu et al., 2021).

This paper responds with a systematic, bibliometric review of research on digital payments and risk in e-commerce.

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Following the PRISMA protocol (Moher et al., 2010) and the four-step bibliometric procedure of Donthu et al. (2021), we searched Scopus on 16 September 2026 using the string "Digital Payments AND Risk" and applied filters for time span (2016–2026), document type (articles and reviews), language (English) and source type (journal). These filters reduced 1,790 initial records to 855 peer-reviewed documents, of which 805 were analysed in Biblioshiny, the graphical interface of the bibliometrix package (Aria & Cuccurullo, 2017). Performance analysis and science mapping were conducted together and cover annual scientific production, leading sources and authors, keyword co-occurrence and thematic mapping. The contribution is threefold. Conceptually, the study uses term-based clustering to bring the supply-side and demand-side streams into a single e-commerce frame. Empirically, it offers a transparent, data-driven account of how a decade of scholarship is structured, rather than a narrative of what individual studies say, and it frames that account around e-commerce rather than payments in general, so that the findings speak to the setting in which consumers confront the payment decision most directly and merchants bear the consequences of fraud. Methodologically, it provides a replicable procedure that future researchers can reuse and extend. The remainder of the paper is organised as follows: Section 2 reviews the literature, Section 3 outlines the methodology, Section 4 presents the bibliometric findings, Section 5 sets out the future research agenda, and Section 6 concludes with the principal findings, contributions, implications and limitations.

The study is guided by three research objectives, each operationalised through the bibliometric techniques described above.

RO1: To establish current trends in research on digital payments and risk in e-commerce, including the growth of publications, the leading sources and authors, and the geographic distribution of contributions.

RO2: To identify the principal themes and risk-related factors, such as security, trust, fraud and financial inclusion, that structure the field, and to classify them as motor, basic, niche or declining through thematic mapping and keyword co-occurrence analysis.

RO3: To propose a future research agenda that directs scholarly attention towards underdeveloped but strategically important areas, with particular reference to e-commerce checkout, under-represented markets and neglected user groups.

Taken together, the objectives move from description (RO1), through explanation (RO2), to direction (RO3), so that the paper maps the field, interprets its structure and indicates where it should go next. Each objective is answered by a specific part of the analysis: RO1 by the performance analysis of production, sources and authors; RO2 by thematic mapping and keyword co-occurrence; and RO3 by combining the gaps those analyses expose with those identified in the literature review.

2. LITERATURE REVIEW

Digital payments are the backbone of e-commerce, transforming online browsing into completed transactions. The literature has grown significantly since early reviews of mobile payments focused primarily on technical feasibility and business models (Dahlberg et al., 2008). Subsequent works have expanded the scope to include consumer behaviour, security, regulation, and monetary innovation (Dahlberg et al., 2015; Gomber et al., 2017), and the topic has gained relevance for three main reasons. First, the COVID-19 pandemic served as an external shock: Crouzet et al. (2023) show that large shocks can drive sustained adoption of electronic payments, and the Global Findex database records a worldwide rise in digital payments during the pandemic (Demirgüç-Kunt et al., 2022). Second, digital payments are increasingly seen as a means to financial inclusion (Ozili, 2018; Sahay et al., 2020). Third, central banks have entered the fray by investigating digital currencies (Boakye-Adjei et al., 2023; Boar & Wehrli, 2021), placing payment infrastructure at the forefront of policy discussions.

Definition of Key Terms

Digital-payment research draws from information systems, marketing, economics, and computer science, and each field uses its terminology differently. Table 1 therefore defines the less commonly known terms that run through the studies reviewed below.

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Term	Working definition	Source
Mobile payment	Payment for goods, services, or bills that is initiated or completed through a mobile device.	Dahlberg et al. (2008)
Fintech	Technology-enabled innovation in financial services that produces new business models, applications, or products.	Gomber et al. (2018)
Blockchain	A distributed ledger that records transactions without a central intermediary.	Nakamoto (2008)
Cryptocurrency	A decentralised digital asset, recorded on a public ledger and not issued by a state.	Böhme et al. (2015)
CBDC	Central bank digital currency: digital money issued as a liability of the central bank, with cash-like attributes.	Ozili (2023); Bech & Garratt (2017)
Financial inclusion	Access to and use of formal financial services, often measured through account ownership and digital payments.	
Perceived risk	A user's subjective expectation of loss, with performance, financial, and privacy facets.	Featherman & Pavlou (2003)
Trust	Willingness to rely on an online vendor or system despite vulnerability.	Gefen et al. (2003); Pavlou (2003)
Perceived usefulness / ease of use	Belief that a technology improves performance / is free of effort.	Davis (1989)
UTAUT	Unified model of acceptance built on performance expectancy, effort expectancy, social influence, and facilitating conditions.	Venkatesh et al. (2003)
Continuance intention	Intention to keep using a technology after initial adoption.	Bhattacherjee (2001)
Innovation resistance	Functional and psychological barriers that lead consumers to reject an innovation.	Ram & Sheth (1989)
Cash on delivery	A pay-on-receipt option in e-commerce that competes with electronic payment.	Purwandari et al. (2022)

Table 1. Key terms and working definitions

Review of Reviews

Given the abundance of published work, individual studies are not reviewed one by one. Rather, this section reviews the review and synthesis papers that were supported by influential primary studies and arranges them according to the term co-occurrence map in Figure 1. The map reveals two clusters which are densely connected to each other.

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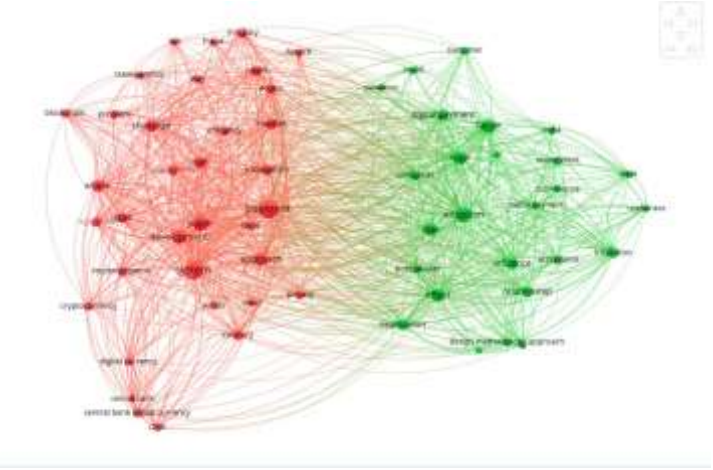


Figure 1. Term co-occurrence cluster map of the reviewed literature

The red cluster is anchored by the terms system, payment, development, approach, and challenge, and also contains innovation, cost, access, regulation, fraud, transparency, blockchain, cryptocurrency, and CBDC. It therefore represents the supply side of the field: how payment systems are designed, regulated, secured, and implemented. The green cluster is anchored by adoption, trust, intention, factor, user, and influence, and includes acceptance, ease, usefulness, convenience, consumer, mobile payment, India, COVID, and pandemic. It represents the demand side: why consumers accept, trust, and continue to use digital payments. The many links running between the clusters, especially around privacy, innovation, and policymaker, indicate that the two streams are interdependent rather than separate.

Cluster 1: Payment systems, innovation, and regulation

The reviews in this cluster begin with attempts to map the evolution of the field. Dahlberg et al. (2008) organised mobile payment research into thematic areas, and their critical update noted the prominence of consumer adoption studies (Dahlberg et al., 2015). In a wider financial context, Gomber et al. (2017) synthesise research on digital finance and FinTech and propose future directions, and Gomber et al. (2018) interpret FinTech as a force of innovation, disruption, and transformation. Together, these studies position online payments as one component of a broader restructuring of finance.

A second strand examines new forms of money. Nakamoto (2008) proposed a peer-to-peer electronic cash system, and Böhme et al. (2015) later evaluated the economics, technology, and governance of Bitcoin, including regulatory and illicit-use concerns. Central banks have responded with their own designs: Bech and Garratt (2017) distinguish alternative types of central bank cryptocurrency, Auer et al. (2020) trace the drivers and technologies behind the rise of CBDCs, and Boar and Wehrli (2021) report that most surveyed central banks were exploring the concept. Ozili (2023) reviewed CBDC research and found a consensus that a CBDC is a central bank liability with cash-like attributes. This strand focuses largely on monetary policy and financial stability and says little about the checkout experience in e-commerce.

A third strand concerns fraud, privacy, and cost. Abdallah et al. (2016) survey fraud-detection systems, which are essential for protecting online card transactions, while Featherman and Pavlou (2003) conceptualise perceived risk as a multi-faceted construct, including performance, financial, and privacy dimensions, that inhibits the adoption of e-services. On the economic side, Higgins (2024) shows that the adoption of cashless payments is shaped by network externalities: the value of a payment method rises as more people and merchants use it.

Cluster 2: Adoption, trust, and consumer behaviour

This cluster contains the largest body of review evidence and rests mainly on technology-acceptance theory. Davis (1989) established perceived usefulness and ease of use as the core determinants of acceptance, and Venkatesh et al. (2003) unified competing models into UTAUT, later extended to consumer settings by adding hedonic motivation, price value, and habit (Venkatesh et al., 2012). Tamilmani et al. (2021) systematically reviewed applications of

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UTAUT2, illustrating how widely the model has been adapted. Reviews focused on payments and banking reach convergent conclusions: Shaikh and Karjaluoto (2015) show that TAM-based frameworks dominate mobile banking research, and Alkhowaiter (2020), reviewing 46 studies from Gulf countries, identifies trust, perceived security, and perceived usefulness as the best predictors of adoption. Similar syntheses focus on smaller firms (Mat Jusoh et al., 2024) and on national contexts such as Jordan, where limited digital literacy is among the barriers to adoption (Aljaloudi & Jaradat, 2025).

Primary studies illustrate and extend these findings. Kim et al. (2010) extended the technology acceptance model with individual and technology characteristics, Slade et al. (2015) added innovativeness, risk, and trust, and Oliveira et al. (2016) highlighted compatibility and perceived technology security. Alalwan et al. (2017) extended UTAUT2 with trust in mobile banking, while Patil et al. (2020), studying 491 Indian consumers, found that performance expectancy, intention, and grievance redressal significantly predicted the use of mobile payment; Hussain et al. (2025) further examine inhibitors in the Indian context. In e-commerce specifically, Gefen et al. (2003) and Pavlou (2003) showed that trust and perceived risk shape online purchasing alongside the acceptance constructs, and Bhattacherjee (2001) explained that continued use depends on confirmation of expectations and satisfaction. Resistance-oriented work complements these views: Ram and Sheth (1989) distinguish functional from psychological barriers, and Laukkanen (2016) shows that the barriers explaining rejection differ across seemingly similar service innovations.

The COVID-19 literature forms a distinct sub-theme. Puriwat and Tripopsakul (2021) found that perceived usefulness, satisfaction, and health-related perceptions influenced the continuance intention to use contactless payments, while Al-Dmour et al. (2020) and Al-Qudah et al. (2022) examined the factors driving e-payment and mobile payment adoption during the pandemic. Within e-commerce itself, Purwandari et al. (2022) analyse consumers' switching intention from cash on delivery to electronic payment in C2C transactions.

Cluster	Representative studies	Core focus
1. Payment systems, innovation, regulation	Dahlberg et al. (2015); Gomber et al. (2017); Ozili (2023)	Fintech, digital currencies, fraud, cost
2. Adoption, trust, consumer behaviour	Alkhowaiter (2020); Tamilmani et al. (2021); Patil et al. (2020)	Determinants of acceptance and continued use
2a. Pandemic sub-theme	Puriwat & Tripopsakul (2021); Purwandari et al. (2022)	Shock-driven adoption

Table 2. Summary of the clusters and representative reviews

Taken together, the reviews reveal three gaps. First, the two clusters are largely studied in isolation: adoption reviews rarely engage with the infrastructure, CBDC, and regulatory issues that dominate Cluster 1, while reviews of monetary innovation (for example, Ozili, 2023) seldom consider user acceptance at online checkout. Second, the evidence is geographically concentrated in Gulf countries, Jordan, India, and Southeast Asia (Alkhowaiter, 2020; Aljaloudi & Jaradat, 2025; Patil et al., 2020; Purwandari et al., 2022), so generalisation to other markets remains tentative. Third, within the sources reviewed here, most evidence relates to mobile payment or banking rather than to payment in online retail, with Purwandari et al. (2022) being a notable exception. These gaps motivate a review that connects the supply-side and demand-side perspectives within e-commerce.

Scope of the Review

The review has the following limitations. First, thematically, only literature on digital payments in e-commerce was considered, including online retail, marketplaces, and consumer-to-consumer transactions. The scope excludes studies that exclusively address point-of-sale transactions or have no payment element at all. Second, conceptually, the review encompasses both theoretical clusters identified in Figure 1. The focus was on the payments, regulation, and digital currency cluster, but the analysis also involved the factors affecting adoption, trust, and behavioural intentions. Third, methodologically, the review is limited to a database of peer-reviewed sources. Only 40 sources were included in the

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final analysis, with a clear preference for systematic and critical reviews and critical papers that provided sufficient background for the topic. Fourth, temporally, the review prioritizes recent studies. The reason for this is linked to the dynamic nature of the phenomenon under investigation. However, seminal works also had an impact on the current understanding of the field (Davis, 1989; Ram & Sheth, 1989). Finally, geographically, the literature is skewed towards emerging economies, and therefore the conclusions are stronger in the context of these economies than in developed countries. The differences between the two settings could explain some of the inconsistencies in the results.

Conceptually, the current synthesis differs from the preceding studies in a number of ways. First, it focuses on the term-based clustering of the conceptual domain rather than the identification of thematic areas. Second, while each prior review concentrated on either technology and regulation or adoption and behavioural intention, the current study integrated findings from both domains within the context of e-commerce payments. As such, the current review is comprehensive but not exhaustive.

3. RESEARCH METHODOLOGY

Systematic Literature Review (SLR) is a methodological approach aimed at identifying, screening, and evaluating all relevant studies that have been previously conducted within a certain field of research (Paul & Criado, 2020). This study utilizes the SLR methodology to investigate a wide range of literature on Risk Management in Digital Payments, which has seen tremendous growth along with the world-wide transition towards cashless and platform-driven payment systems.

Article Selection, Inclusion and Exclusion Criteria

The search of the database was done on 16 September 2026 via Scopus through the keyword string “Digital Payments AND Risk” included in the title, abstract, and keywords. In its data collection stage, the PRISMA approach considers the systematic review process iterative and states that its value largely depends on the scope and rigour of the selected studies (Moher et al., 2010).

The PRISMA process flow chart can be found in Figure 2. In total, 1,790 results were obtained through the search. There were four sequential filters used:

Time span (2016-2026): the time span filter reduced the dataset to 1,696 entries, with 94 articles excluded from the dataset because of their publication date.

Document type (article and review): the document type filter reduced the dataset to 918 entries, with 778 entries being excluded as conference papers and book chapters.

Language (English): reduced the dataset to 858 documents, eliminating 60 non-English documents.

Source type (journal): reduced the dataset to 855 documents, eliminating 3 documents from non-journal peer-reviewed sources.

The resulting dataset was thus composed of **855** papers selected out of the total of 1,790 documents initially found.

Comments on the filtering process

In a closer examination of the annual composition of the filtered time dataset, publication activity is dominated by the most recent years: 2026 (435 documents) and 2025 (382 documents) contribute almost to half of the entire 2016-2026 period, with relatively consistent decrease going backwards until 2016 (15 documents). This pattern suggests that Risk Management in Digital Payments is an emerging research area rather than a mature or saturated one, justifying the use of the ten-year window rather than a longer one – much of the relevant literature on the topic has, in fact, appeared very recently.

The document type filter also reflects the intentional quality control efforts: from the ~1,790-document database, only Articles (892) and Reviews (65) were kept in the final dataset, with Conference papers (506) and Book chapters (225) constituting the major part of what was removed along with a few Conference reviews, Books, Notes, Erratums, Retracted papers and an Editorial. Such selection of articles and reviews is consistent with the overall preference in the field of peer-reviewed journal publications, which have a higher quality control standard than the conference papers or book chapters.

Regarding language, English records dominate overwhelmingly (1,714 out of the total number of records seen through

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the language filter), followed by Russian (33), Chinese (13), German (7) and Spanish (5). This seems to be a bit different from bibliometric studies in other adjacent areas of finance, wherein Chinese-language papers make up the largest non-English segment of the output; however, the significant size of the Russian-language part can be explained by the presence of a relevant regional fintech and payments research community that was eventually excluded from consideration due to the scope being limited to English sources.

Finally, with regards to the type of the source, the scholarly journal proves to be by far the main publishing medium of this type of literature (974 out of the total number of records), with Conference proceeding (423), Book series (199) and Book (177) being the secondary types and Trade journal (4) accounting for the smallest one. This finding further underlines the appropriateness of the decision made to limit the final database to journal literature only.

As a sidenote, it should be understood that the figures seen on the right-hand side bar in the Scopus filter sidebar reflect the number of records in each filter category in the original, unfiltered result set of about 1,790 items for each of the filters, not the number of remaining records after applying all previous filters – this is exactly what the PRISMA chart reflects instead. These two measures are consistent, although they are not additive, because Scopus recalculates the number of records in each of its filters against the original, unfiltered result set.

In addition, 464 out of 805 records (≈58%) were designated as Open Access in Scopus, which means they are peer-reviewed papers that are freely accessible online without any subscriptions.

The reasons why Scopus was used in place of Web of Science is that the content of Scopus is accessible from a single subscription and does not require any further modulations. In addition, the content of several speciality databases (such as Embase, Compendex, Medline) is integrated into Scopus so it can be accessed easily within the same system (Pranckutė, 2021).

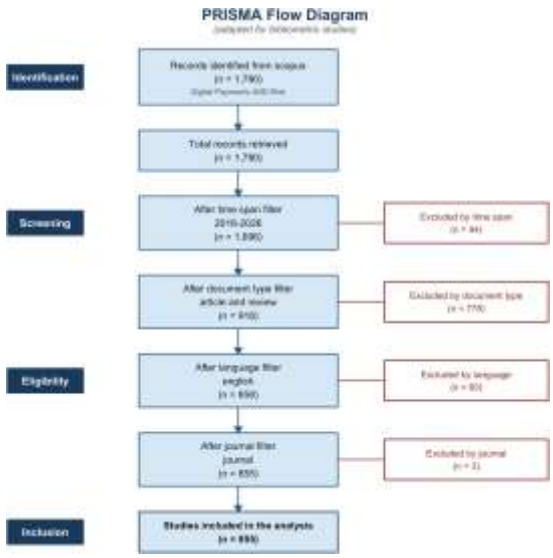


Figure 2. PRISMA flow diagram (adapted for bibliometric studies)

Bibliometric Analysis

The justification of using a bibliometric review is quite simple. First, a bibliometric analysis is usually beneficial when there is a need for a wide scope of review or the number of items is too big for a pure manual review which is true in regard to the current data collection of 855 items (Donthu et al., 2021).

Another reason to use bibliometrics is the recent spread of these methods in various fields, such as business and management, economics and finance, and the social sciences (Donthu et al., 2021). Risk Management in Digital Payments is also one of those areas, thus, it is quite appropriate to use bibliometrics for the research.

Using bibliometric analysis provides researchers with a set of data to develop the scope of research themselves, as well as the list of keywords trends, progression of publications per year, the most influential authors and sources, and main subfields of the topic. The systematic review should follow a certain methodology which requires rigorous methods,

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proper reporting, and scientific strategies aimed at minimising bias and error (Moher et al., 2010). Replicability is an important notion of systematic literature review which means that the review process could be repeated by other researchers and lead to the same findings and evidence (Linnenluecke et al., 2020).

A four-step method of bibliometric review was proposed by Donthu et al. (2021). These steps were applied in the current review in the following way:

Step 1 — Define the aims and scope of the bibliometric study

As it has been mentioned above, the primary goal of the research is to assist future research agendas of Risk Management in Digital Payments with the help of a quantitative analysis of this area. For this purpose, 855 papers have been collected. Also, the goal of the review is to generate visual representations of the quantitative data to provide future researchers with a better understanding of the field.

Step 2 — Choose the techniques

In accordance with the research objectives, the relevant bibliometric techniques have been employed. The corresponding science mapping techniques include: co-occurrence analysis of keywords; thematic mapping; and trend analysis. In relation to this study, no techniques associated with analysis of the linkages between the documents in the database have been employed (such as co-citation analysis and co-authorship analysis), as in the present case the objective is not to examine the connections between specific documents but rather the development trend and direction of the field.

Step 3 — Collect the data

The description of the step in question is presented in the above section, as well as in the PRISMA flowchart. The search terms relevant to the scope of the research were "Digital Payments AND Risk". The Scopus database was the only database employed in the research. The following aspects have been considered as inclusion criteria: time frame; document type; language; source type. Using the filters, the search result of 1,790 papers has been narrowed to the 855 papers relevant to the research scope.

Step 4 — Run the analysis and report the findings

At this stage the techniques determined in Step 2 are applied, namely science mapping techniques. As mentioned above, performance analysis and science mapping have been carried out simultaneously, as these types of analysis naturally complement each other (Donthu et al., 2021). Additionally, this review acknowledges the fact that very often the researchers discover midway that in order to proceed with the research they require an additional dataset (graph, chart, map) which results in obtaining additional data and thus repeating Step 3 (Donthu et al., 2021). This process is quite redundant, and therefore the efforts have been undertaken to make the analysis complete from the very beginning, in order to make the future researchers' task easier. The hope is that this way the researchers will save time when carrying out the Step 3 in their works.

Lastly, the following software and resources were used for bibliometric analysis:

1. **R Studio —** this software enables access to "Biblioshiny" resource which was widely used in the current analysis.
2. **Biblioshiny** is the graphical interface for the Bibliometrix package that runs on the R platform to enable bibliometric and science mapping analysis without the need for any coding skills (Aria & Cuccurullo, 2017). It was a crucial component in the preparation of this review.
3. **Mendeley Desktop** – The reference manager that was used in this review. All the ".ris" files exported from the Scopus database were imported in Mendeley. The "Cite-O-Matic" add-in for Microsoft Word was used to cite the sources while writing the review.
4. **Scopus** Database – The Elsevier database and the only database from where the data for the bibliometric review was obtained.

4. DATA ANALYSIS

The Scopus export was filtered in Microsoft Excel before being imported into Biblioshiny; no blank or N/A entries were found in the key fields. The file was then loaded into Biblioshiny for analysis.

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Main information



Figure 3. Main information of the dataset (Biblioshiny output)

The research data covers a period from 2016 to 2026, showing the topic has been studied over the last ten years. There are 545 different sources, such as journals, conferences, and other academic publications, included in the dataset.This research has been published in a lot of different publication sources. 805 documents represent the collection of research papers used in this analysis. The annual growth rate is 40.38%, which means that there has been quite an impressive rise in publications over the covered period of time. Therefore, one can conclude that there has been much interest shown by academics in this research area. The high growth rate can be an indicator of increasing relevance of the topic among researchers in recent years. A total of 2,582 authors have participated in writing the 805 documents. There are many different and diverse researchers involved in this study. There are 147 authors who have published single-authored documents. There has been some research done independently without cooperation with other researchers. The international co-authorship rate is 26.46%. One fourth of the documents have been written by researchers of different countries. There is quite a noticeable level of international cooperation within this research area. On average, every document has 3.44 co-authors. The average level of more than three authors per document indicates that there is usually cooperation between the researchers in doing the studies. There are 4,561 author's keywords in this dataset.These keywords can be further analysed to identify the major research trends and emerging areas.The average age of the documents is 2.29 years. This indicates that the publications in the dataset are relatively recent. Each document has received an average of 14.56 citations. This means that, on average, the publications in the dataset have been cited/referred to approximately 15 times by other academic works.

Annual Scientific Production

Annual scientific production from 2016 to 2026 shows a significant increase in the number of publications. Growth was slow for the first three years, averaging about 7 articles per year from 2016 to 2018, followed by a significant leap to 31 in 2019, 86 in 2022, 133 in 2024, 172 in 2025 and 208 in 2026 (a year still in progress when the data were collected). In 2023, the number of articles decreased by 12 compared with 2022, to 74. In general, the trend is upward.

The number of research studies increases over the years, as the following linear regression equation shows:

$y = 19.809x - 45.673$

where 19.809 is the slope coefficient, which, as mentioned above, indicates that the dependent variable y (the number of published articles) will increase on average by 19.8 articles with each additional year in the future. Thus, with a slope of about 20, the regression line rises rapidly enough.

The intercept is −45.673, the value of y at x = 0. Because x = 0 lies outside the observed period, the intercept has no practical interpretation here.

R squared is approximately 0.9, which means that the trend line explains almost 90% of the variability in this data set, with only about 10% unexplained.

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Three-Field Plot

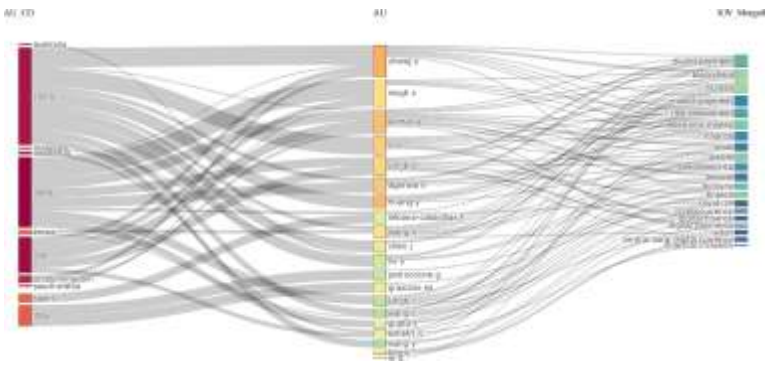


Figure 4. Three-field plot of countries, authors and keywords

The plot visualizes the relationships between countries (AU_CU), authors (AU) and keywords (KW_Merged). Based on the plot, it is evident that research explored in this dataset originates from multiple countries and is conducted by different authors, yet the distribution is skewed towards certain countries and individual researchers.

On the left side of the plot are the countries involved in the research, such as China, India, Australia, Italy, and others. The flow of lines from China and India are darker than that from other countries because of their contributions to the research.

In the center, the authors are linked to their respective countries. Some authors have bolder connections which could indicate their overall larger contribution to the research or collaborative efforts between different scholars.

On the right side, the keywords show the main themes explored by the researchers. The plot clearly displays that the keywords are thematically diverse, yet multiple authors are studying similar subjects. Some keywords have bolder flows from different authors which would suggest that specific themes are more widespread or consistently explored within the research field.

Most Relevant Sources

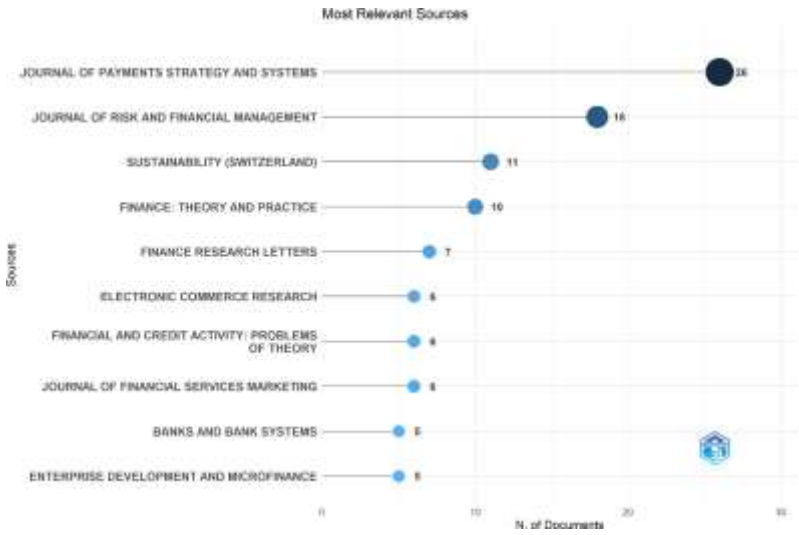


Figure 5. Most relevant sources

The graph illustrates that the majority of the research output is concentrated within a number of journals. Of these, the Journal of Payments Strategy and Systems appears by far most productive, with 26 documents published. Following closely are the Journal of Risk and Financial Management (18 documents) and Sustainability (Switzerland) and

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Finance: Theory and Practice (11 and 10 documents, respectively).

Behind these leading journals, there is a significant drop in the number of publications, with Finance Research Letters publishing 7 documents and Electronic Commerce Research, Financial and Credit Activity: Problems of Theory, and Journal of Financial Services Marketing publishing 6 documents each. Finally, Banks and Bank Systems and Enterprise Development and Microfinance have 5 documents each.

Sources' Production Over Time

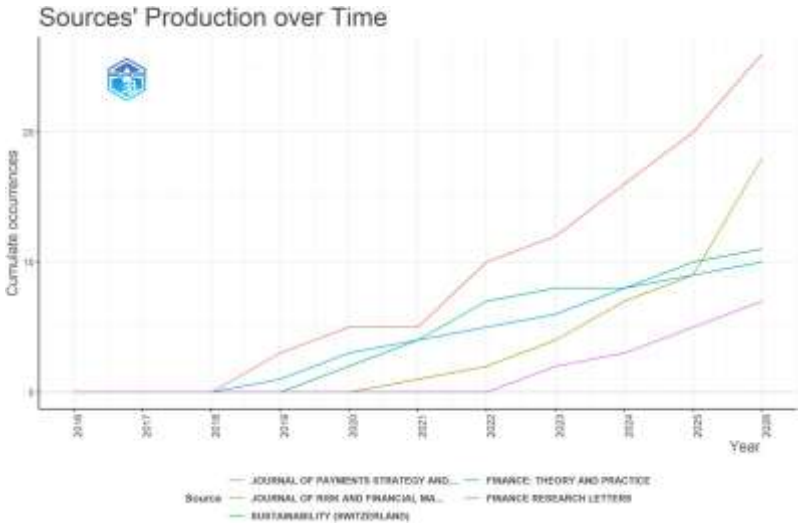


Figure 6. Sources' production over time

Figure 6 represents the change in the cumulative number of publications for different journals/sources between 2016 and 2026. In general, it can be stated that all these journals/sources demonstrate an overall growth trend, although this growth is uneven and varies significantly between the journals.

The Journal of Payments Strategy demonstrates the highest level of growth. The number of publications started to rise significantly in 2018 and continued growing steadily until 2026, reaching approximately 25 cumulative publications by 2026.Therefore, this source has consistently contributed to research in the chosen field.

The Journal of Risk and Financial Management is characterized by the slowest beginning, producing only one publication before 2021. However, there has been an increasing number of papers in this journal since 2021, and by 2026, there are about 18 cumulative publications in this journal. There has also been an increase in the number of publications in 2024 and 2026, and thus, it proves that the influence of this journal on the field of research has increased considerably.

The publication rate in Finance: Theory and Practice has also been steadily increasing since 2020 until 2026. In the last year, there are about 11 cumulative publications, which is rather moderate as compared to other journals.

Finally, Sustainability (Switzerland) started to publish in 2019 and has had a steady increase until 2026. In the last year, there have been about 10 cumulative publications in this journal.Finance Research Letters has the number of publications that have barely changed since the beginning of the decade, only rising slightly after 2022. By 2026, only 7 cumulative publications were present in this journal, which is significantly lower than in most of the other journals listed above.

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Most Relevant Authors

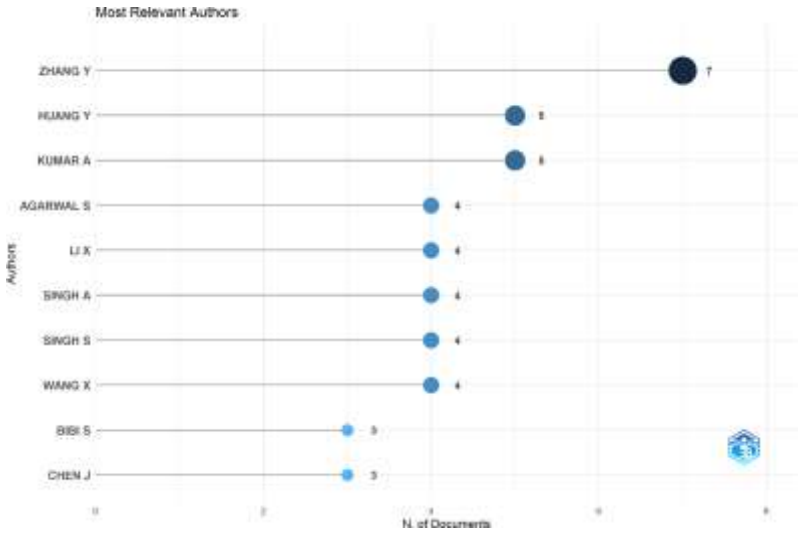


Figure 7. Most relevant authors

The author-wise graph further illustrates that the majority of the research output is dominated by a small group of authors. Specifically, ZHANG Y. appears to be the most productive one with 7 documents published. This is followed by HUANG
Y. and KUMAR A., with 5 documents each. Thus, this group of authors appears to have a substantial contribution to the research topic under investigation compared to the rest of the authors.

Another group of authors contributing to the research topic under investigation is represented by AGARWAL S., LI X., SINGH A., SINGH S., and WANG X., with 4 documents each. BIBI S. and CHEN J. have 3 documents each.

Overall, the graph suggests that no single author dominates the research topic under investigation in terms of contributions. Instead, there is a group of authors, with Zhang Y. being the most productive among them.

Authors' Production Over Time

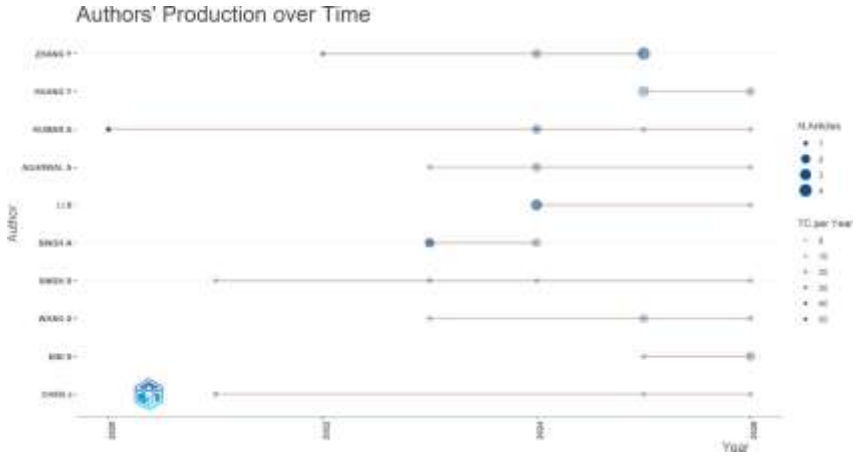


Figure 8. Authors' production over time

The Authors' Production over Time graph provides a more detailed view of the research output, specifically of the leading authors. Overall, the graph suggests that the majority of research contributions were made in the more recent years, with a number of authors demonstrating increased productivity in the most recent years.

Specifically, ZHANG Y., who appears the most productive among all authors, has published documents across

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multiple years, with the peak in around 2026 and steady productivity since 2022. HUANG Y. appears to be active predominantly in the last two years. Similarly, KUMAR A. appears to be consistently productive throughout the timeframe under investigation.

Other authors, such as AGARWAL S., LI X., SINGH A., SINGH S., and WANG X., have generally been productive across multiple years, but their contribution does not appear to dominate any particular year. It was revealed that some authors have a low productivity in terms of numbers of papers published. However, for the majority of the authors, their productivity appears to be comparable throughout the timeframe under investigation.

The size of the circles reflects the number of articles, with larger circles indicating more papers, while the color depth represents the number of citations per year, with darker colors indicating a higher number of citations. Accordingly, authors who published more papers and/or received more citations are illustrated with larger and darker circles, respectively.

Thematic Map

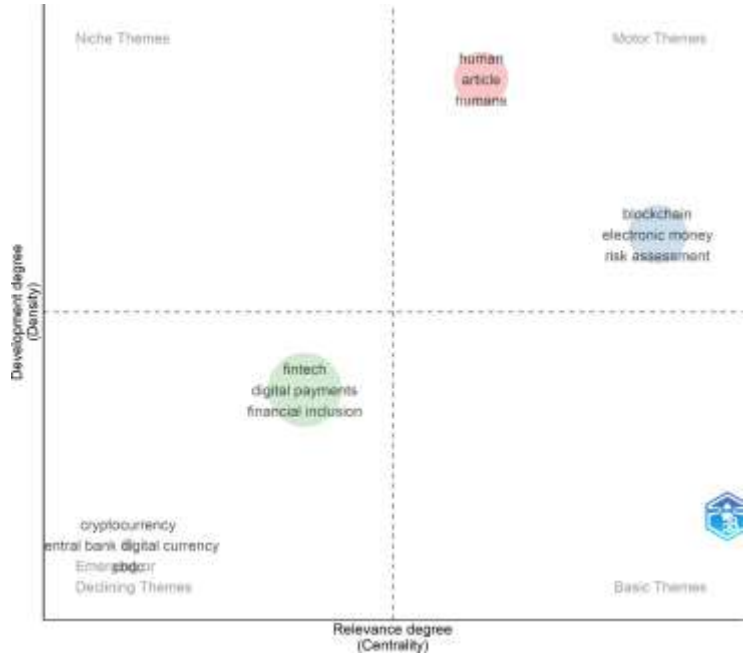


Figure 9. Thematic map on the basis of relevance (centrality) and development (density)

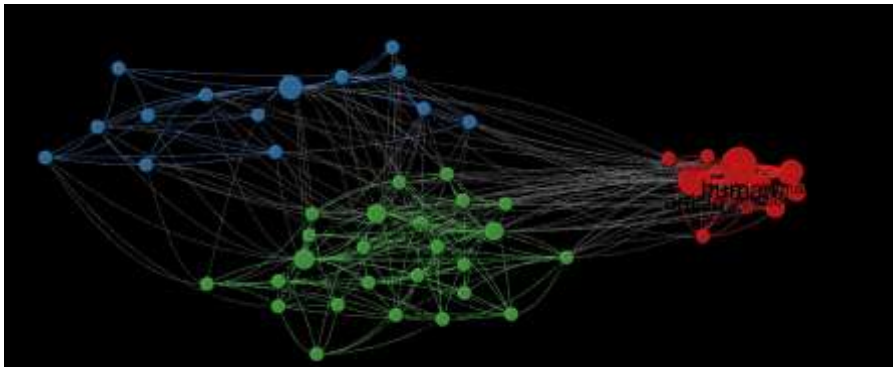
Themes in the upper-right quadrant are motor themes, characterised by high relevance (centrality) and a high level of development (density). Blockchain, electronic money and risk assessment fall here and are both well developed and well connected to the overall research field. The generic indexing terms human, article and humans also sit in this quadrant, which reflects how often these database-assigned terms occur rather than any substantive theme.

Niche themes occupy the upper-left quadrant. They are well developed but only loosely connected to the main research field. Basic themes occupy the lower-right quadrant; they are highly relevant to the field but less developed. No theme is plotted in either of these two quadrants in the present map.

The lower-left quadrant contains emerging or declining themes, which are both weakly developed and weakly connected to the rest of the field. Fintech, digital payments and financial inclusion lie in this quadrant close to the centre of the map, whereas cryptocurrency and central bank digital currency (CBDC) are located in its extreme lower-left corner and are the most marginal themes.

Overall, the distribution of research topics on the map demonstrates that blockchain, electronic money and risk assessment are well-developed motor themes, while fintech, digital payments, financial inclusion, cryptocurrency and CBDC remain weakly developed and peripheral.

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Co-occurrence Network

Figure 10. Keyword co-occurrence network

Each cluster represents a group of keywords that frequently appear together in the literature.

The blue cluster is dominated by research related to blockchain and digital currency. “Blockchain” is the second-most common keyword among the selected clusters and is closely related to topics such as cryptocurrencies, smart contracts, security, data privacy, payment systems, and central bank digital currency. These results indicate that a portion of the literature addresses the technical and security-related issues regarding digital money technologies.

The green cluster is fintech and electronic finance keywords. Terms such as “electronic finance,” “fintech,” “risk assessment,” “digital payment,” “financial inclusion,” “digital finance,” and “technology adoption” are closely interrelated with each other. Thus, the analysis indicates the presence of the interest in technology adoption and its impact in the area of digital payments, financial inclusion, and risk assessment. In comparison to the blue cluster, this group appears to be more concentrated on the financial aspects of technology.

The red cluster is isolated from the rest of the clusters and includes such terms as “article,” “human,” “male,” “female,” “health,” and “COVID-19.” This implies that some papers included in the current dataset may have been concerned with the themes related to health or demographics during the time of COVID-19.

5. FUTURE RESEARCH AGENDA

This study mapped a decade of Scopus-indexed scholarship (2016–2026) on digital payments and risk in e-commerce, using the PRISMA approach (Moher et al., 2010) and the four-stage bibliometric methodology of Donthu et al. (2021) to analyse 805 journal articles in the Biblioshiny platform (Aria & Cuccurullo, 2017). Despite rapid growth (annual growth rate of 40.38%) and a relatively recent emergence, the area remains fragmented. In the thematic map, blockchain, electronic money and risk assessment are motor themes, while fintech, digital payments, financial inclusion, cryptocurrency and CBDC lie in the lower-left quadrant. The co-occurrence network separates clusters of blockchain, fintech and adoption from a health and COVID-19 cluster whose terminology is unrelated to e-commerce.

The most frequent keywords are digital payment (72 documents, 8.9%), human (65), fintech and blockchain (61 each), CBDC (60), cryptocurrency (52), electronic money and mobile payment (43 each), financial inclusion and risk assessment (37 each) and perceived risk (36). Generic indexing terms such as “human”, “article”, “female” and “male” also rank highly and say little about the subject. Two patterns follow. First, the language is dominated by payment technologies and money going digital, while concepts of risk appear comparatively less: the concept of perceived risk is mentioned in 36 articles, fraud as a keyword in only 9, and e-commerce in 28 (3.5%). Second, the language evolves over time. Up to 2022, the main keywords used are cryptocurrency (28), CBDC (22), blockchain (20), and mobile payment (19). After 2022, they are: digital payment (56), fintech (53), blockchain (41), and CBDC (38). Thus, attention is shifted from digital money to digital payments and fintech; however, risk within the context of e-commerce does not shift along with that. It illustrates one of the reasons the use of keyword analysis is flawed since a popular concept does not mean a good one from a theoretical standpoint. The thematic map has revealed this pattern in respect to the language of digital payments and fintech.

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In response to RO3, the research agenda is organised using the 5W1H framework (Who, What, Where, When, Why, How), following a short review of keyword usage. Table 3 summarises the gaps identified; the figures represent keyword matching performed on the titles, abstracts and keywords of the 805 documents.

Question	Gap identified	Evidence (805 documents)
Who	Older users, first-time users, MSMEs	2.9% and 3.4% of documents
What	Undefined risk construct; BNPL and wallets	BNPL 8 documents; wallets 50
Where	E-commerce checkout; Africa, Latin America	E-commerce 7.8%; checkout 3 documents
When	Persistence of trust; AI-driven fraud	Longitudinal designs 2.4%
Why	Supply and demand streams unconnected	Separate clusters in the network
How	Single database; no co-citation analysis	Scopus only; References = 0

Table 3. Future research agenda framed by the 5W1H questions

Who: neglected users and sellers

Only 23 studies (2.9%) are concerned with senior consumers and 27 (3.4%) with micro, small and medium enterprises (MSMEs), while 19 of these include both MSMEs and digital payment (Mat Jusoh et al., 2024). Digital literacy is a recognized constraint in Jordan (Aljaloudi & Jaradat, 2025), and small businesses cannot compete with major players' budgets for fraud prevention. Age, digital literacy and business size need segmentation in future research, as well as inclusion of qualitative research, since acceptance model instruments are unlikely to address those issues. Regional cooperation could prove useful as well – the most productive author, Zhang Y., published seven documents, while the share of international co-authorship is 26.46%.

What: risk constructs and the weakly developed themes

Studies treat risk in different ways: as fraud loss (104 documents mention fraud), as a security threat (298 mention security or privacy) or as a perception (107 mention perceived risk). Researchers should validate scales that separate objective exposure from perceived risk (Featherman & Pavlou, 2003). Newer instruments also need attention: wallets appear in 50 documents (6.2%) and buy-now-pay-later (BNPL) in only 8, four of them in the title, although Worldpay (2026) reports that wallets held 56% of global e-commerce value in 2025 and forecasts BNPL at roughly US$500 billion by 2030.

The lower-left quadrant of the thematic map combines low centrality with low density, so its themes are weakly connected to the rest of the field and weakly developed internally. Each term suggests a distinct gap.

Digital payments. It is the most frequent keyword, yet its cluster is marginal. The term is invoked far more often than it is defined, and only 22 documents combine it with e-commerce. Future work should specify which instruments and which stage of the purchase "digital payment" covers, and measure risk consistently across them.

Fintech. Appearing in 61 documents, fintech is treated as a general backdrop rather than a theory-bearing construct. Researchers should study how fintech providers' risk controls, such as authentication and fraud screening, affect checkout outcomes for online merchants.

Financial inclusion. Mentions rose from 6.9% of documents up to 2022 to 13.1% from 2023, yet inclusion is mostly treated as an outcome. Little work asks how safeguards and fraud exposure shape the confidence of newly included users. Studies should test whether security measures widen or narrow inclusion among low-literacy, older and small-business users.

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Cryptocurrency and CBDC. Despite 52 and 60 keyword occurrences, both are weakly connected to the field, and cryptocurrency's share of documents fell from 20.6% to 13.6%. Only 30 of the 95 CBDC documents address adoption or intention. This should not be read as irrelevance; rather, monetary-policy research and consumer payment-risk research seldom meet. Future studies should examine consumer protection and trust when CBDCs or stablecoins are used at online checkout.

Where: geography and the e-commerce setting

India (147 documents, 18.3%), the United States (114) and China (109) altogether have 352 out of 805 documents (43.7%), while Africa constitutes 49 (6.1%) and Latin America 16 (2.0%). The generalisation can only be considered preliminary because institutional protections, such as grievance redressal, predicted payment adoption in India (Patil et al., 2020). E-commerce occurs in 63 documents (7.8%), together with fraud in 14; checkout is mentioned in three and cash on delivery in two, although switching from cash on delivery is a key issue (Purwandari et al., 2022). Future research will need to compare
risks for different instruments and types of platforms and perform experiments in different countries, including Africa and Latin America. According to ResearchAndMarkets (2026), e-commerce fraud losses are forecast to more than double by 2029.

When: timing and persistence

Comparing documents published up to 2022 with the 587 published from 2023 onwards, mentions of COVID-19 decline from 16.1% to 7.5%, while mentions of artificial intelligence increase from 4.1% to 15.2%, mentions of fraud increase from 6.4% to 15.3%, and mentions of trust increase from 13.3% to 27.4%. As only 19 papers (2.4%) utilize longitudinal research design, it is not clear if adoption that persisted despite shocks (Crouzet et al., 2023) also meant persistence of trust. Longitudinal and post-COVID studies need to check if trust persisted, and if screening using artificial intelligence decreased or increased trust in some cases.

Why: integrating supply and demand

The body of research on infrastructure and fraud (Abdallah et al., 2016; Ozili, 2023) as well as that on adoption and trust (Alkhowaiter, 2020; Tamilmani et al., 2021) is somewhat independent. There is a little intersection because 99 works deal with both trust and security. At the same time, only 24 works out of 104 related to blockchains talk about adoption. Scholars have to consider the integrated model connecting system-level controls with perceived risk, trust, and continuance intention (Bhattacherjee, 2001). This way, they can find out whether the higher level of authentication reduces the abandonment rates in case of users' distrust. There is a good opportunity for comparative design as well. For example, one may study whether highly regulated markets feature greater levels of trust than those markets that rely on vigilance of consumers. This data will help firms determine those areas where additional security is really needed and those areas that just add hindrances during the checkout process.

How: methodological directions

The review relies on one database and one search string ("Digital Payments AND Risk"), so future reviews should add Web of Science and terms such as fraud, trust and "e-commerce". The corpus is limited to English-language journal articles and excludes conference papers and Russian- and Chinese-language work, which a multilingual review could add. The export carries no cited references (References = 0), so co-citation analysis was not possible. Bibliometrics describes structure rather than quality, so mapping should be complemented by content analysis of influential papers.

Taken together, these priorities would move the field from listing risk factors towards explaining how they interact to ensure safeguards in payment systems and the confidence of the people who use them are understood as two parts of one problem.

6. CONCLUSION

Summary of the Study

This paper set out to examine how a decade of scholarship has engaged with risk in digital payments, using a systematic, bibliometric review of Scopus-indexed journal literature published between 2016 and 2026. The motivation was a structural problem identified in the literature review: research on payment infrastructure, regulation and digital money, and research on consumer adoption, trust and behaviour, have developed largely in parallel, even

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though risk is the concept that connects them. By applying the PRISMA protocol and the four-step procedure of Donthu et al. (2021) to a corpus of 805 documents, and by combining performance analysis with science mapping in Biblioshiny, the study sought to replace impressionistic narrative with a quantified account of the field's growth, actors and themes. The analysis was organised around three objectives: to establish current trends, to identify and classify the themes that structure the field, and to propose a future research agenda. The sections that follow address each in turn before turning to contribution, implications and limitations.

Principal Findings

In relation to RO1, the evidence points to a young, fast-expanding and still fragmented field. The 805 documents are spread across 545 sources and 2,582 authors, with an annual growth rate of 40.38%. Annual output rose from a handful of papers in the opening years of the window to 31 in 2019, 86 in 2022, 133 in 2024 and 172 in 2025, with 208 recorded for 2026, a year that was still in progress when the data were collected. A linear trend of roughly 19.8 additional articles per year explains almost 90% of the variance, and the brief contraction in 2023 (74 articles, down from 86) does not alter the overall trajectory. The average document is only 2.29 years old and has attracted 14.56 citations, which confirms that the literature is recent yet already influential. Collaboration is common, with 3.44 co-authors per document and an international co-authorship rate of 26.46%, although 147 authors have published alone. Output is concentrated in a small number of outlets, led by the Journal of Payments Strategy and Systems (26 documents) and the Journal of Risk and Financial Management (18), and no single author dominates: the most productive, Zhang Y., contributed seven documents. Contributions are geographically weighted towards China and India. Taken together, these indicators describe a field that is expanding faster than it is consolidating.

In relation to RO2, thematic mapping and keyword co-occurrence reveal a field organised around three distinct clusters. Blockchain, electronic money and risk assessment emerge as motor themes: they are both well developed and strongly connected to the rest of the field. Fintech, digital payments and financial inclusion sit in the lower-left (emerging or declining) quadrant, close to the centre of the map, which means that they are weakly developed and only loosely connected to the rest of the field even though they are among its most frequent terms. This is a notable result, because it implies that the core construct of the field is still more often invoked than theorised. Cryptocurrency and central bank digital currency lie in the extreme lower-left corner of the same quadrant. This should be read carefully: it indicates that, within research on payment risk, these topics are peripheral and weakly connected, not that they are unimportant in monetary policy more broadly. Finally, the co-occurrence network separates a blockchain and digital-currency cluster concerned with security and privacy, a fintech and electronic-finance cluster concerned with adoption, risk assessment and inclusion, and an isolated cluster built around health, demographics and COVID-19. As described, none of the three is anchored in e-commerce-specific terminology, and the isolation of the pandemic cluster mirrors the separation of supply-side and demand-side work diagnosed in the literature review.

Theoretical Contribution

The study makes four contributions to theory and method. First, it provides empirical support for a claim that earlier reviews could only assert, namely that the technical and behavioural strands of digital payment research are weakly integrated. The separation of clusters in the co-occurrence network, and the position of risk assessment as a motor theme alongside the underdeveloped status of digital payments itself, show that risk has been studied intensively but within silos. Second, by treating risk as the bridging construct, the paper offers a basis for integrating perceived-risk and trust theories (Featherman & Pavlou, 2003) with system-level research on fraud, security and digital money. Third, it demonstrates the value of a replicable, data-driven review design in a field where narrative syntheses dominate, thereby responding to the methodological gap identified in the introduction. Fourth, the finding that digital payments and fintech are weakly developed and only loosely connected to the rest of the field, directs theoretical attention towards definition and measurement: the field would benefit from clearer constructs of what counts as risk in a payment context and how it is operationalised across studies.

Practical Implications

The findings carry implications for three audiences. For e-commerce platforms and payment providers, the prominence of risk assessment as a motor theme suggests that a technical understanding of fraud is relatively mature, whereas the consumer-side confidence that determines whether a customer completes a purchase receives comparatively little integrated attention. Checkout design should therefore treat security controls and trust cues as parts

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of a single experience, rather than as separate engineering and marketing concerns, and should recognise that excessive friction can be as costly as undetected fraud. For regulators and policymakers, the weakly developed status of digital payments and financial inclusion on the thematic map indicates that evidence on how safeguards shape the confidence of first-time and vulnerable users lags behind the pace of adoption. Policies on real-time payments, BNPL and digital currencies would benefit from being tested against that evidence before, rather than after, wide deployment. For researchers and doctoral students, the thematic map functions as a navigational tool that identifies where the literature is saturated and where contributions are most needed. Smaller merchants and marketplaces, which cannot match the fraud-prevention budgets of large platforms, stand to benefit most from shared evidence on which safeguards sustain customer confidence, and industry bodies could usefully translate the field's better-developed findings into practical guidance for such firms.

Limitations

Several limitations qualify these conclusions. The review relies on a single database, Scopus, and on a single search string, "Digital Payments AND Risk", so studies that describe the same phenomenon in other terms, or that are indexed elsewhere, may be absent. Restricting the corpus to English-language journal articles and reviews excludes conference papers, book chapters and a non-trivial body of Russian- and Chinese-language work. Bibliometric methods describe the structure of a literature rather than the quality or direction of its findings; a theme's prominence on the thematic map is not evidence that the underlying claims are correct. Co-citation and co-authorship network analyses were deliberately omitted, so relationships among individual documents and research communities remain unexamined. Finally, the 2026 data are incomplete, and the keyword-based thematic classification may be sensitive to indexing conventions, as the appearance of generic terms such as "human" and "article" among the motor themes suggests. These constraints do not invalidate the findings, but they define the population of studies to which the findings apply and counsel against reading the thematic classification as definitive.

Future Research Agenda

In response to RO3, five priorities emerge: integrating system-level safeguards with consumer-level outcomes, focusing on the e-commerce checkout and on instruments such as buy-now-pay-later (BNPL), widening the geographic base beyond China and India, attending to neglected user groups, and conducting longitudinal and post-pandemic studies of trust. These priorities, together with methodological directions for future reviews, are developed in detail in Section 5.

Concluding Remarks

Digital payments have become the default way to pay online, but the research that explains their risks remains divided along the same line that separates technology from behaviour. This review has shown that the field is growing rapidly, is concentrated in a small set of journals and a handful of countries, and is structured around a few well-developed themes while leaving its central construct conceptually thin. The task for the next decade is therefore less to produce more studies than to connect those that already exist, so that the safeguards built into payment systems and the confidence of the people who use them are understood as two parts of one problem. If that connection is made, future research will be better placed to inform merchants, regulators and consumers at the point where digital payments are most widely used and most exposed to loss.

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