

## A Bibliometric Analysis of Customer Perceived Satisfaction with Electronic Payment Gateway Services: Insights from Nepal in the Context of Developing Economies

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**Abstract.** This study conducts a bibliometric analysis to explore global trends and insights into customer satisfaction and the adoption of electronic payment gateway services, with a specific focus on Nepal as a representative developing country. The researcher uses dimension database data to examine peer-reviewed articles that cover the years from 2016 to 2025 through citation analysis, co-citation analysis, and keyword analysis. Nepal serves as a relevant case study due to its rapid financial adoption, despite infrastructural and regulatory challenges common to many developing countries. Trust and ease of use, and perceived security establish the base for digital payment systems, which show similar adoption patterns in various developing countries (Malaquias & Hwang, 2016; Shaikh & Karjaluoto, 2015). The finding shows research output has grown by 15.3 percent each year because digital financial services have become increasingly important. The research identified four key themes that people used to study customer satisfaction with digital payment technologies, together with their trust relationships and security needs. The study shows that domestic research dominates Nepalese research because international research partnerships are non-existent and Nepalese researchers need to work with international researchers to produce better research results. The analysis shows which authors, journals, and countries have made significant contributions to the field while showing how two research themes handle banking customer experience and digital payment adoption. The study ends by showing how research needs to continue with collaboration because researchers need to solve challenges that exist in Nepal's digital financial services transformation process.

**Keywords:** Consumer adoption, Customer satisfaction, Developing economies, Electronic payment gateway services, Mobile banking

## **1. Introduction**

The introduction of Electronic Payment Gateway Systems has completely transformed financial transaction processes. The systems enable customers to complete electronic transactions without interruption, which leads to better payment system performance. The history of electronic money begins in 1918 when Federal Reserve Banks first used telegraph systems to move currency (Graham, 2003; Karki et al., 2024). The development of modern ATMs started in 1968 and continued to advance throughout the following decades. According to Marshal (2002), the banking industry experienced a major transition when it moved away from paper-based transactions because the usage of paper documents decreased from 81% to 61% between 1990 and 2002.

The development of digital currencies has resulted in multiple payment systems, which include EPGS because this system improves customer interaction and supports online business operations (Ghimire et al., 2022). The research conducted by Papameletiou in 1999 showed that e-commerce development depends on the progress of electronic payment systems. The research conducted by Dani and Krishna in 2001 showed that e-commerce development suffers from a payment instrument deficiency, which obstructs online business growth (Rai & Dahal, 2024). The ability of EPGS to gain user acceptance depends on trust, which exists as a key factor. The research conducted by Abrazhevich in 2004 showed that users will not use systems because they lack trust, which acts as the main obstacle for them. The process of transferring secure payment information from merchants to payment processors and to customer banks has undergone development since payment gateways started their technological improvements. Payment gateway services integrated with processing systems enable merchants to handle their transactions, which results in simplified management of their back-office operations. The Internet has undergone revolutionary changes since Tim Berners-Lee created the first web server and the first web browser. The introduction of SSL encryption by Netscape in 1994 created a major advancement for secure online transactions, which permitted e-commerce platforms to establish their operations through companies like Amazon and eBay.

The worldwide use of electronic payment systems has increased, but different economic conditions create distinct patterns of how people use these systems and their level of satisfaction. The developing economy of Nepal enables researchers to investigate how digital systems progress because its current state of digital infrastructure and regulatory rules, and its cultural practices, which affect technology use, are still developing. Similar patterns and contexts discuss the role of trust and perceived usefulness as drivers for the adoption of digital payment (Baptista & Oliveira, 2015; Zhou, 2011). The current market situation shows a worldwide increase in electronic payment systems, which affects both domestic and international markets. In India, a substantial change from cash to electronic transactions has occurred because of government regulations and customers' demand for faster payment methods. Similarly, in Nepal, banks like Nabil and Himalayan Bank have introduced EPGS, facilitating online transactions across various sectors. Despite this progress, the market remains predominantly cash-based, with many consumers expressing skepticism towards electronic payments. Here, the concept of electronic payment gateways mustn't be confused with a mere electronic payment system, which is basically token based system where the customer is required to create an account and load a balance to achieve a token for doing any transaction. Another significant difference between the mere electronic payment systems is that such a payment system is not a card-based transaction and requires a settlement bank for interbank transactions. Transactions of electronic payment gateway involve: security, reliability, confidentiality and security.

Due to a lack of knowledge of the above factors, people may have a fear of using the electronic payment gateway system. On the other hand, local payment gateway services such as eSewa and Khalti.com had already captured the market and established their unique image in mind of Nepalese people. Thus, this article will help service providers to identify factors that influence the adoption of an electronic payment gateway in order to increase the use of the service. Nepal serves as a vital

research site that helps researchers understand how people view digital payment systems in areas that still favor cash but experience rising fintech usage. The research tries to answer the factors like ease of use, usefulness, cost, trust and responsiveness that affect an individual's readiness to adopt the electronic payment gateway system. Does an individual's willingness to identify an electronic payment gateway service vary?

An electronic payment gateway is the new concept in the Nepalese Market. However, its concept was developed in 1960 in united states. From that time, it has been in operation worldwide. Being a new concept, this study helps to improve and enhance the quality of electronic payment services in Nepal for the future. This study will be instrumental in helping service providers to identify factors that influence the adoption of an electronic payment gateway in order to increase the use of the service. The general objective of the study is to develop the knowledge and understanding of factors adoption/usage of the electronic payment gateway system in Nepal. The primary objective is to examine the main influential factors for the acceptance and use of electronic payment gateway systems and to evaluate the overall satisfaction level of electronic payment gateway service users. The organizational structure of the article shall be divided into four basic parts. The first part consists of the background of the study, including the introduction of the topic, the significance and the objectives of the study. The second part consists of the literature review, which explains the methodology of the literature on which the article shall be prepared or based. The third part consists finding and results of the study, along with the interpretation, and the final part shall include the conclusion or the summary of the study and the recommendation for future studies.

## **2. Literature Review**

Aryal (2021) explored determinants affecting consumers' perception of e-payment systems in Nepal. Through multiple regression analysis of 384 respondents, the study identified benefit, ease of use, security, and self-essence as significant factors influencing perception. Contrary to expectations, trust did not have a significant association with consumers' perception. Ayinaddis, Taye, and Yirsaw (2023) investigated the impact of electronic banking service quality on customer satisfaction and loyalty in Ethiopia. The study results showed that customer satisfaction depended on seven factors, which included responsiveness and reliability, security and privacy, speed and convenience. The two factors of system availability, service charges and user-friendly design showed no major impact on the results. EPG exists as a system that utilizes multiple hardware and software components to allow customers to make online payments for their purchases (Bidgoli, 2002; Dahal et al., 2025). Studies identified three main goals of EPG, which include increasing efficiency, improving security, enhancing customer convenience and easing of use. They considered many methods and instruments that can be used to enable EPG implementation.

Chukwu Ubah and Ezeaku (2021) conducted research to assess how Nigerian customers perceive their experience with electronic payment systems used in banks. The study showed how system reliability and user trust worked together to create a positive customer experience. Solat (2017) conducted a detailed study that examined all security features of electronic payment systems. The research showed that organizations must implement strong security systems because they create user trust, which leads to customer satisfaction for e-payment systems (Karki & Dahal, 2024; Khadka et al., 2024). Quach Thaichon and Jebarajakirthy 2016 study how Internet service providers deliver their services, which affects customer loyalty based on different usage patterns. The research examines how different aspects of Internet Service Providers' service quality impact customer loyalty within advanced technological services. The research shows that developing countries' mobile banking systems depend on two main factors, which are system quality and user trust to determine whether users will keep using the service (Bhattacharjee, 2001; Sharma & Sharma, 2019). The researchers collected data from a sample of 1231 internet users. The analysis includes segmenting ISPs' customers on the basis of their usage patterns and evaluating their perceptions of Internet service

quality dimensions. The study provides evidence that service quality dimensions determine both attitudinal loyalty and behavioral loyalty through its application of structural equation modeling and bias-corrected bootstrapping methods. The effects show variation because different groups of ISP customers exhibit different responses. The present paper contributes to research through its development of mediation models and its use of Internet usage data, which helps researchers understand how service quality dimensions affect customer loyalty in high-tech service environments.

Sausi, Mtebe, and Mbelwa (2021) assessed user satisfaction with Tanzania's Government Electronic Payment Gateway (GePG) system. The study used an adapted DeLone and McLean Information Systems Success Model to show that system trust, information quality and perceived usefulness of the system all affected user satisfaction. The service quality produced a negative effect on the results, while the system quality did not produce any noticeable impact. Shrestha (2020) studied the different factors that determine how satisfied customers are with e-payment systems. The study showed that security and information quality had a strong positive relationship with customer satisfaction. The study found that quality showed a moderate relationship with satisfaction, while price had a weak relationship with satisfaction.

Supriyati and Nurfiqo (2019) studied how payment gateways help e-commerce businesses. The study found that payment gateways improve transaction security and processing speed for buyers while enabling sellers to conduct large-scale secure transactions. Research on digital payments has increased in scope, yet only a limited number of studies examine Nepal in relation to developing economies. The study demonstrates that Nepalese research results must be understood within the framework of both regional patterns and worldwide trends in digital finance adoption. However, the UTAUT2 framework and trust-based models have been successfully used in similar developing contexts (Al-Saedi et al. 2020; Venkatesh et al. 2016). While global studies provide insights into user satisfaction and service quality, there is a lack of in-depth country-specific studies in developing economies like Nepal. This creates a gap in understanding context-specific consumer behavior, infrastructure limitations, and cultural acceptance of EPGS in Nepal. As the fintech landscape evolves, EPGS needs to operate with mobile wallets along with government services, tax systems and credit scoring platforms. The literature rarely investigates EPGS capacity to function within broader systems, which affects both user satisfaction and system adoption.

### **3. Methodology**

The study uses bibliometric analysis to examine international research patterns and findings about how customers perceive their satisfaction with electronic payment gateway services. For the study, the articles published in the dimensions shall be taken as a major force for analysis. Papers which are peer-reviewed with an emphasis on electronic payment gateway service, which were published during the last ten years from 2016 to 2025, shall be taken as selection criteria. The bibliometric package of the R programming software is used in the study to examine several aspects of the area and the analysis of the data gathered. While co-citation analysis looks at the connections between major studies and periodic research themes, citation analysis helps in identifying the most relevant articles and authors. Keyword frequency analysis highlights the dominant topic in the literature revealing the prevailing trends and network analysis helps to visualize the map connection among authors, journal and institution providing insights into the collaborative nature of research in this domain. Thus, the dimensions database has been used in the study's bibliometric analysis.

The relevant articles were selected based on the following criteria:

- Keywords: ("Online banking" OR "Mobile Banking" OR "Digital Wallets" OR "Electronic Payment") AND ("Service Quality" OR "Consumer Adoption" OR "Trust and Security" OR "Customer Satisfaction") AND ("Nepal")
- Document Type: Peer-reviewed

articles

- Publication Period: 2016-2025
- Open-access availability

Data generated with dimension was extracted in CSV format and analyzed using Biblioshiny (R programming package). Citation analysis identified influential authors and research trends, while network analysis visualized collaboration patterns. The result obtained through this analysis has been presented using visualizations like network maps and graphs, focusing on the evolution of research trends. The impact of key authors, and the global discourse on cybersecurity risks and the evolution of electronic Finance. Ethical considerations have been adhered to by properly citing all sources of data and ensuring that the analysis is done transparently and objectively.

The detailed process, as suggested by Donthu et al. (2021), is explained in Figure 1.

Step1: Selection of database Dimensions database
Step 2: Search using keywords ("online banking" OR "mobile banking" OR "digital wallets" OR "electronic payment") AND ("service quality" OR "consumer adoption" OR "trust and security" "OR "customer satisfaction") AND ("Nepal")
Step 3: Applying filters The following filters were applied Document type_ Article Year– from 2016 to 2025 Access_Open access is available
Step 4: Download the CSV file CSV file downloaded for further analysis
Step 5: Analyze data. Data analyzed using and Bibliophagy package for R programming

Fig.1: Flow chart showing Bibliometric Analysis

For the analysis purpose, the data in the retrieved literature was exported to Microsoft Excel. The exported data included annual growth of publications, types of documents, languages, countries, authors, words used, institutions, journals, citations, and funding literature. The literature was also exported to the R Studio program to create network visualizations maps, word clouds and analysis of various other data into tabular form.

## 4. Data Analysis and Findings

### 4.1 Main Information

Table 1. Main Information about the Data

Category	Value
Timespan	2016-2025
Sources	306
Documents	470
Annual Growth Rate	15.3%
Authors	1183
Authors of Single-Authored Docs	89
International Co-Authorship	18.3%
Co-Authors per Document	2.82
Author's Keywords (DE)	41
References	0
Document Average Age	2.79 years
Average Citations per Document	13.5

The bibliometric analysis covers nearly a decade span from 2016 to 2025, indicating a growing research focus on electronic payment gateways and customer satisfaction. The 470 published documents across 306 sources suggest that research in this field is well-disseminated across multiple academic journals. The annual growth rate of 15.3% indicates a significant research interest, which could reflect the growing importance and adoption of electronic payment gateway services.

The 470 documents and 306 sources indicate a substantial body of research which could provide a comprehensive understanding of customers with electronic payment services. With 18.3% international co-authorship, there is a notable level of global collaboration in this field, suggesting that the topic is of international relevance and the local research is being influenced by global trends. The research shows wide academic recognition because its documents receive 13.5 citations per document, which demonstrates the research's impact and importance to both academic and professional fields. The research shows 89 single authors who produced documents with an average of 2.82 co-authors per document, which demonstrates that researchers conducted their work through both individual and group research methods that enable them to study customer satisfaction from various viewpoints. The research shows which documents maintain their current relevance through 2.79 years of average document age because electronic payment systems experience constant development.

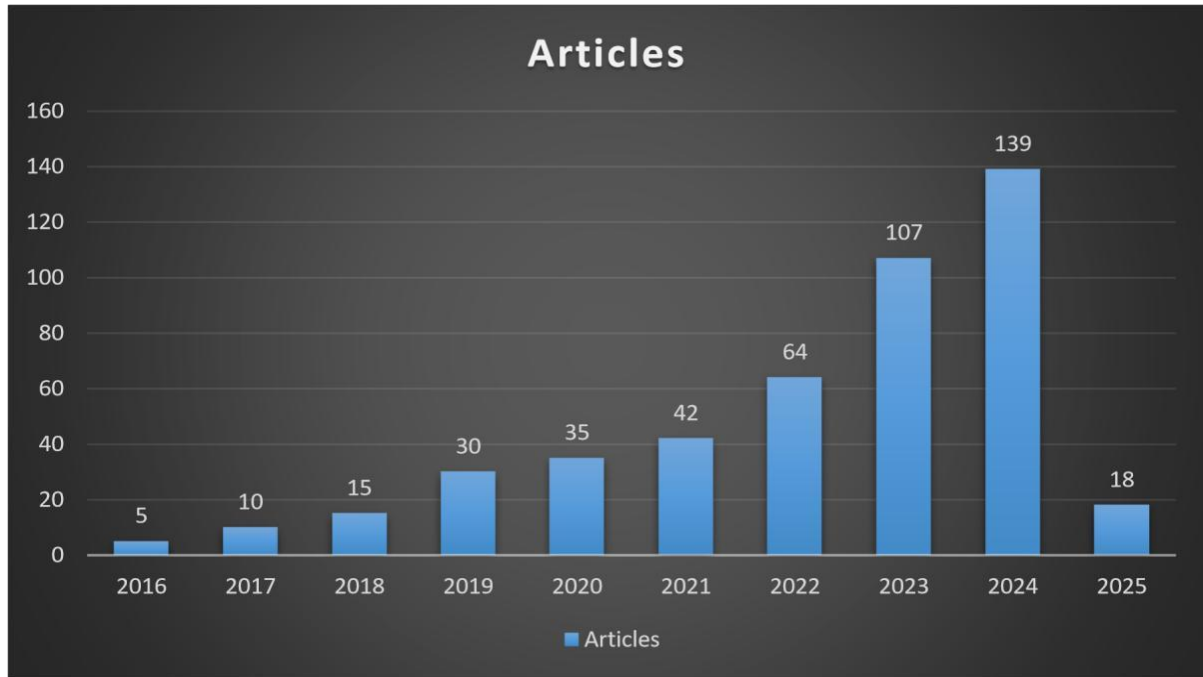


Fig. 2: Publications over the year

Figure 2 presents data which shows that 465 articles were published between 2016 and 2025. The article count shows an upward trajectory, which starts from 5 articles in 2016 and reaches 42 articles by 2021. The research indicates that people increasingly developed an interest in electronic payment services throughout the research period. The article count grows from 64 articles in 2022 to 107 articles in 2023 and reaches 139 articles in 2024. The research output shows a significant increase, which researchers attribute to more people using digital payment systems, to new government rules and to advancements in technology that have occurred in Nepal. The upward trend shows that academic interest in electronic payment systems has increased because these systems have become necessary for conducting financial transactions. The recent boom (2022-2024) could indicate new challenges, innovations, or government interventions in financial transactions.

Table 2. Relevant Sources of Data

Sources	Articles
Sustainability	15
Na	14
Heliyon	7
International Journal of Business and Globalisation	
Innovation in Ageing	6
Journal of Risk and Financial Management	6
Quest Journal of Management and Social Sciences	6
Interdisciplinary Journal of Innovation in Nepalese Academia	5
Journal of Financial Services Marketing	5
Management Dynamics	5
Sage Open	5
Contemporary Research: An Interdisciplinary Academic Journal	4

Journey of Nepalese Business Studies	4
International Journal of Public Sector Performance Management	4
International Research Journal of Management Science	4
Journal of Business and Management	4

Table 2 lists the academic journals that have published the highest number of papers on digital finance and customer satisfaction. Journals like *Sustainability*, *Heliyon*, *International Journal of Business and Globalisaion* and *Journal of Risk and Financial Management* appear frequently, suggesting that these are key platforms where research in this field is being published. Identifying these sources helps in understanding where the major academic.

## 4.2 Bradford's Law

Bradford's law is a bibliometric principle that helps to analyze the distribution of articles across different journals. A small core of highly relevant journals contains the most significant publications on top, whereas a second group of journals has moderate relevance, contributing fewer articles, and a third, much larger group contains many scattered journals contributing a small number of relevant articles.

Zone 1 (Core Journals): Journals publishing the highest number of relevant articles. Zone 2 (Middle-tier Journals): Journals with a moderate number of relevant papers. Zone 3 (Peripheral Journals): Journals with a few scattered articles.

Table 3. Bradford's Law

Sources	Rank	Freq.	Cum. Freq	Zone
Sustainability	1	15	15	Zone 1
N/A	2	14	29	Zone 1
Heliyon	3	7	36	Zone 1
International Journal of Business and Globalisation	4	7	43	Zone 1
Innovation in Ageing	5	6	49	Zone 1
Journal of Risk and Financial Management	6	6	55	Zone 1
Quest Journal of Management and Social Sciences	7	6	61	Zone 1
Interdisciplinary Journal of Innovation in Nepalese Academia	8	5	66	Zone 1
Journal of Financial Services Marketing	9	5	71	Zone 1
Management Dynamics	10	5	76	Zone 1
Sage Open	11	5	81	Zone 1
Contemporary Research: An Interdisciplinary Academic Journal	12	4	85	Zone 1
Journey of Nepalese Business Studies	13	4	89	Zone 1
International Journal of Public Sector Performance Management	14	4	93	Zone 1
International Research Journal of Management Science	15	4	97	Zone 1
Journal of Business and Management	16	4	101	Zone 1

Table 3 shows that all listed journals contribute to and belong to Zone 1. It contains the most highly productive journals. The cumulative frequency of the article is 101. The top 4 sources (Sustainability, NA, Heliyon, and International Journal of Business and Globalisation) contribute 43 out of 101 articles (42.6%).



### 4.3 Source Production Over Time

Table 4. Source Production Over Time

Year	Sustainability	Heliyon	International Journal of Business and Globalisation	Innovation in Ageing	Journal of Risk and Financial Management	Quest Journal of Management and Social Sciences
2016	0	0	0	0	0	0
2017	0	0	0	0	0	0
2018	1	0	0	1	0	0
2019	3	0	0	2	0	1
2020	4	1	0	3	0	2
2021	9	1	1	4	0	2
2022	9	2	3	4	1	2
2023	11	3	6	5	3	3
2024	15	6	7	6	6	6
2025	15	7	7	6	6	6

This table shows that the number of articles published across all journals has increased from 0 in 2016 to 47 in 2025. The research activity in these journals began to have momentum in 2018-2019. Sustainability has the highest number of publications, growing from 1 article in 2018 to 14 articles in 2025. The major growth happened after 2020, with consistent increases every year. 2024 and 2025 show the highest number of articles published across all sources, and it also shows that the research interest in these areas is at its highest in the last two years.

### 4.4 Most Relevant Countries by Corresponding Authors

SCP refers to the articles authored solely within one country, whereas MCP refers which involves international collaboration

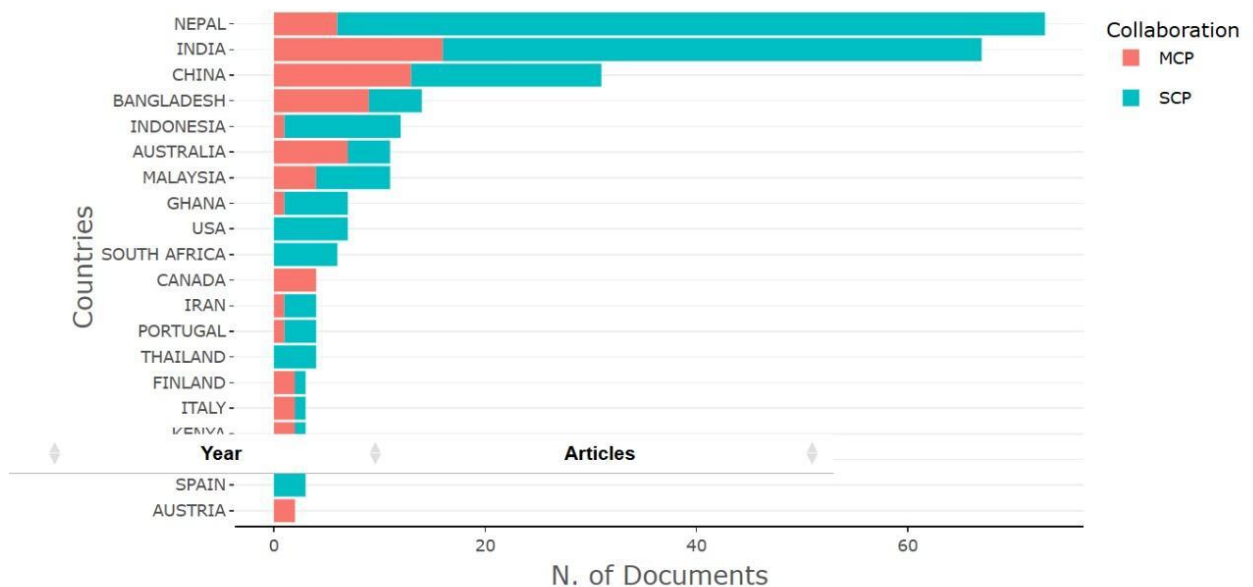


Fig. 3: Relevant countries by Corresponding Authors

Figure 3 shows that Nepal exhibits the highest SCP count (67 articles), indicating that the most research is done domestically with minimal international collaboration (MCP:6). It also shows India has a slightly higher international collaboration (MCP:16). China also shows that it has stronger global research in MCP compared to Nepal and India. Countries like the USA, South Africa and Ghana exhibit low or zero MCP, implying they focus more on independent research contributions. European countries and Australia display a greater tendency for international partnerships, fostering cross-border knowledge sharing

#### 4.5 Collaboration Network

The collaboration network represents the interconnections among researchers, institutions or countries based on the co-authorship or joint contributions to academic publications.

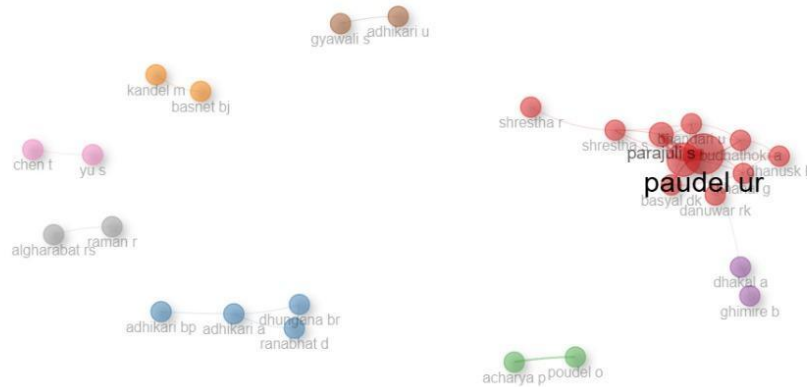


Fig. 4: Collaboration Network

The given image represents co-authorship relationships among researchers. Each circle represents an author, and connections indicate co-authorship on academic publications. The size of the circle suggests that the researcher's influence is based on the number of connections or publications. Paudel U.R appears as the most central and influential author in the network, indicating a strong collaboration with multiple researchers. Other key collaborators include Parajuli S., Budhathoki A., and Shrestha R forming a dense cluster. This network shows a strong central collaboration group, and it highlights several isolated research clusters.

#### 4.6 Annual Total Citation Per Year

Annual Total Citation per Year is the average number of citations an author's publications receive per year. It helps to evaluate the impact and influence of an author's work over time.

Table 5. Annual Total Citation per year

Year	Mean TC per Art	N	Mean TC per Year	CitableYears
2016	18.40	5	1.84	10
2017	13.40	10	1.49	9
2018	20.80	15	2.60	8
2019	35.50	30	5.07	7

2020	55.00	35	9.17	6
2021	26.43	42	5.29	5
2022	16.38	64	4.10	4
2023	4.57	107	1.52	3
2024	1.21	139	0.60	2
2025	0.00	18	0.00	1

The highest average number of citations per article was recorded in 2020(55 citations per article). This suggests that research published in 2020 gained significant attention and was frequently cited. There is a declining trend, which indicates that recently published papers have not yet gained many citations. The number of publications has increased significantly over the years. In 2016, only five articles were published, while in 2024 the publication count reached 139, making it the most productive year in terms of research output. Despite the increase in publication citation impact does not increase proportionally. The Mean TC per Year in 2023 and 2024 is relatively low, suggesting that higher publication volume does not necessarily lead to higher research impact.

#### 4.7 Most Cited Countries

Table 6. Most Cited Countries

Country	TC	Average Article Citations
CHINA	725	23.40
BANGLADESH	696	49.70
INDIA	645	9.60
AUSTRALIA	615	55.90
FINLAND	350	116.70
IRAN	307	76.80
CANADA	294	73.50
MALAYSIA	233	21.20
FIJI	227	227.00
USA	221	31.60

Table 6 presents data on the total citations and average article citations per country. It shows the impact and influence of research produced by these countries. China, Bangladesh and India have the highest citations in the research, but their per article impact is comparatively lower. Fiji Finland, and Iran have the highest average citation impact, which indicates that the research is highly influential despite lower total output. Australia and Canada maintain a strong balance between volume and output.

#### 4.8 Keyword Analysis

Table 7. Keyword Analysis

Words	Occurrences
Electronic Payment	125
Banking	37
Financial	33

Customer	28
Online	26
Adoption	26
Digital	24
Inclusion	21
Bank	21
Satisfaction	18

A basic bibliometric technique for determining the terms that appear most frequently in a collection of research publications is keyword analysis. In a certain discipline, it aids researchers in identifying trends, themes, and important subjects. This aids in highlighting the main area of interest, tracking the development of research subjects, and mapping linkages between various concepts. Thematic mapping (which divides keywords into quadrants to illustrate study development), co-occurrence networks (which show how frequently keywords occur together, indicating subject clusters), and frequency analysis (which finds the most used keywords in a dataset) are some of the different forms of keyword analysis. Figure 4 displays the most often used terms for my research on customer perceived satisfaction with electronic payment gateway service.



Fig. 5: Keywords Cloud

#### 4.9 Co-Occurrence Network

A co-occurrence network is also known as a semantic network, which analyzes text that includes a graphic visualization of potential relationships between people, organizations or other entities represented within written material. The generation and visualization of co-occurrence networks has become practical with the advent of electronically stored text complaint to text mining. The analysis by R-studio provides the map of the co-occurrence network in the relevant field of electronic payment gateway and customer satisfaction.

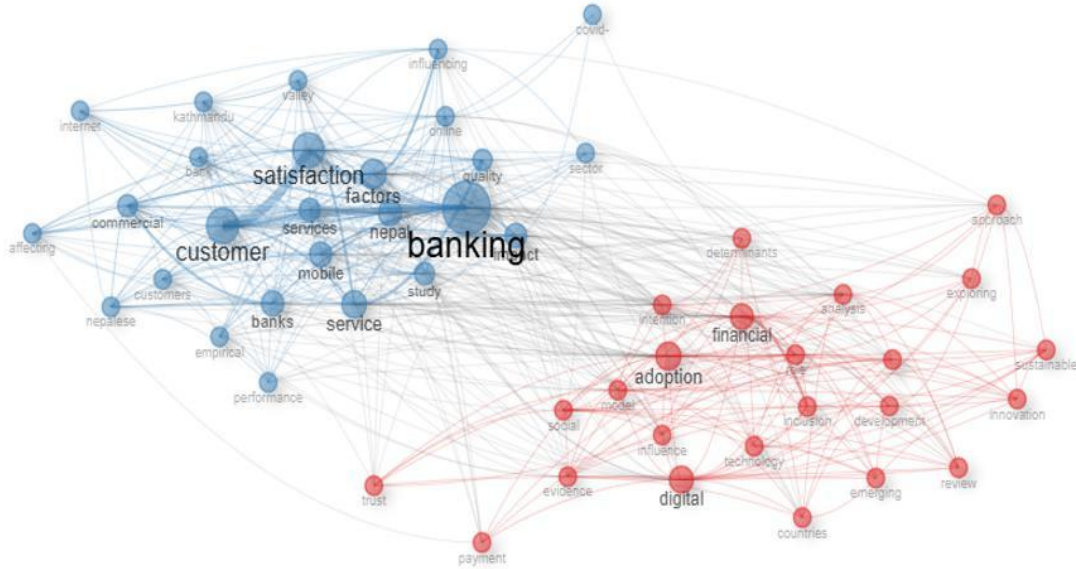


Fig 6: Co-Occurrence Network

Figure 5 represents the relationship between key terms in research related to banking, digital finance and customer satisfaction. The node size represents the frequency of the terms, and edges indicate how often the terms appear together. In the given image, there are two clusters (i.e. blue and red). In the Blue cluster, the largest node is banking. It is the most frequently occurring term. Other important terms, such as “performance, commercial banking and quality” indicate a focus on factors affecting satisfaction. This cluster focuses on customer experience in Nepal’s banking sector. The red cluster shows the focus on electronic payment or digital finance adoption. The largest term in the red cluster is “adoption, financial and digital”. Terms like “technology, inclusion, trust” focus on the adoption of digital financial services.

## 5. Discussions

This article provides a thorough bibliometric assessment of research on electronic payment gateway systems and customer satisfaction, with Nepal examined as an illustrative case within developing economies. Between 2016 and 2025, there is an extreme increase in research output, particularly since 2020, which will be discussed later. The current trend shows two main developments, which include the global shift towards digital financial services and the increasing adoption of electronic payment systems in Nepal (Dahal et al., 2023; Ghimire et al., 2024). The value of 15.3 percent demonstrates a growing academic and practical interest in this field, which exists because of technological improvements and changes in government policies and the demand for easier financial transaction methods. Nepal serves as an ideal research site because its digital literacy problems, infrastructure deficiencies, and trust challenges serve as valid research points that developing countries experience during their financial digital transformation process. The research results support previous studies, which found that trust and users' perception of digital payment systems' accessibility determine their adoption in India, Bangladesh, and African countries (Humbani & Wiese, 2019; Singh & Srivastava, 2020).

The analysis demonstrates that international cooperation functions as the primary requirement for successful research operations because 18.3% of the research work involved authors from different nations. However, most of their research output is domestic (SCP: 67) and lacks international collaboration (MCP: 6). This indicates that whilst Nepal is making an active effort to contribute to the discipline, global engagement can be increased to improve the quality and also the impact of research in Nepal (Joshi et al., 2024; Sharma et al., 2023). As countries such as India and China continue to

conduct more international research, the benefits of cross-border knowledge sharing will become ever clearer and more pronounced as the leading countries in terms of research in digital finance.

The citation analysis reveals that research published in 2020 received the highest average citations (55 citations per article), indicating that studies from this period had a significant impact on the academic community. However, the declining trend in citations for more recent publications from 2023 and 2024 indicates that newer research has not yet gained widespread recognition. There might be a delay in the citation practices following the publication, or it may reflect the need for more impactful studies in a rapidly evolving field. The research core area of the study uses "electronic payment" and "Banking and Financial" as its most common terms, according to keyword analysis results. The research is divided into two primary clusters through the co-occurrence network, which studies customer experience in Nepal's banking sector and digital payment service adoption. The research area displays two research objectives through its thematic division, which aims to enhance customer satisfaction with current banking services and drive the uptake of forthcoming digital payment solutions.

## **6. Conclusion**

Bibliometric research about electronic payment on the gateway system and customer satisfaction in the Nepalese scenario reveals a pattern more or less like that of developing economies. The rising publication count after 2020 demonstrates how digital financial services have become essential in Nepal, together with the demand for better payment solutions that provide enhanced security and easier user access. The study shows that international research partnerships play a vital role in advancing this field while showing the need for research initiatives that can effectively tackle the challenges and opportunities that arise during the digital transformation process of financial services.

The study shows that electronic payment systems in Nepal have developed into a major research area, which sees increasing interest throughout the country since 2016 through 2025, showing a 15.3 percent yearly increase in publication output. The academic and practical importance of EPGS shows growth because of digital transformation processes that are currently taking place in Nepal. The research results show that customers base their satisfaction on multiple factors, which include trust and security, ease of use, responsiveness and perceived usefulness of the product. The research field shows strong domestic research output, while researchers need to establish international partnerships for their work. Research output is heavily concentrated in a few core journals, and keyword analysis shows that themes like electronic payment, banking and digital adoption and customer satisfaction serve as central topics for the discussion. The increase in publication output has not resulted in a corresponding increase in citation impact, which indicates that researchers need to improve their research output quality and international impact.

As a developing economy, Nepal's experience with EPGS offers transferable insights into how digital payment solutions can be tailored to meet user needs in similar socio-economic contexts. Future research needs to include cross-country comparisons as a method to test these results across comparable developing economies (Gupta & Arora, 2017; Ramos-de-Luna et al., 2016). The field requires research that examines how electronic payment gateway systems can work together with mobile wallets, credit systems and government services. Researchers need to study how EPGS systems impact underbanked communities by assessing their long-term satisfaction and socio-economic development. The identification of key satisfaction drivers, which include ease of use and responsiveness, will enable providers to enhance their interface design, customer service and system reliability to achieve better adoption rates and customer loyalty.

## References

- Abrazhevich, D. (2004). Electronic payment systems: A user-centered perspective and interaction design. *Technische Universiteit Eindhoven*.
- Al-Saedi, K., Al-Emran, M., Ramayah, T., & Abusham, E. (2020). Developing a general extended UTAUT model for M-payment adoption. *Technology in Society*, 62, 101293. <https://doi.org/10.1016/j.techsoc.2020.101293>
- Aria, M., & Cuccurullo, C. (2017). Bibliometric: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959–975. <https://doi.org/10.1016/j.joi.2017.08.007>
- Aryal, S. (2021). Factors Affecting Consumers' Perception of Electronic Payment Systems. *The Lumbini Journal of Business and Economics*, 9(1-2), 86–99. <https://doi.org/10.3126/ljbe.v9i1-2.45991>
- Ayinaddis, S. G., Taye, B. A., & Yirsaw, B. G. (2023). Examining the effect of electronic banking service quality on customer satisfaction and loyalty: an implication for technological innovation. *Journal of Innovation and Entrepreneurship*, 12, Article 22. <https://doi.org/10.1186/s13731-023-00287-y>
- Baptista, G., & Oliveira, T. (2015). Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators. *Computers in Human Behavior*, 50, 418–430. <https://doi.org/10.1016/j.chb.2015.04.024>
- Bhattacharjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, 25(3), 351–370. <https://doi.org/10.2307/3250921>
- Chukwu, K. O., Ubah, C. B., & Ezeaku, C. N. (2021). Electronic Payment System and Customer Satisfaction in Nigerian Banking System. *International Journal of Scientific and Management Research*, 4(5), 30–48. <http://doi.org/10.37502/IJSMR.2021.4502>
- Dahal, R. K., Ghimire, B., & Joshi, S. P. (2023). Post-purchase satisfaction on life insurance policies: Evidence from Nepal. *Journal of System and Management Sciences*, 13(5), 17–30. <http://dx.doi.org/10.33168/JSMS.2023.0502>
- Dahal, R. K., Sharma, B. B., Ghimire, B., Karki, D., & Joshi, S. P. (2025). An Informatics-Based Analysis of Consumer Trust, Website Design, and E-Commerce Logistics in Nepal. *Journal of Logistics, Informatics and Service Science*, 12(8), 40–57. <https://doi.org/10.33168/JLISS.2025.0803>
- Dani, A., & Krishna, S. (2001). The impact of electronic payment systems on e-commerce growth. *Journal of E-Commerce Research*, 2(3), 45–56.
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285–296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- Ghimire, B., Dahal, R. K., & Singh, S. (2024). Data-driven insights into enhancing employee performance through work-life improvements in Nepalese small and medium enterprises. *Journal of Logistics, Informatics and Service Science*, 11(6), 167–183. <http://dx.doi.org/10.33168/JLISS.2024.0610>
- Ghimire, B., Rai, B., & Dahal, R. K. (2022). Understanding and adoption of Internet banking: Nepalese perspective. *KMC Research Journal*, 6(6), 13–31. <https://doi.org/10.3126/kmcrcj.v6i6.59368>
- Graham, J. (2003). The evolution of electronic money: A historical perspective. *Financial History Review*, 10(2), 123–140.



- Gupta, A., & Arora, N. (2017). Understanding determinants and barriers of mobile shopping adoption: Behavioral reasoning theory perspective. *Journal of Retailing and Consumer Services*, 36, 1–7. <https://doi.org/10.1016/j.jretconser.2016.12.012>
- Humbani, M., & Wiese, M. (2019). An integrated framework for the adoption and continuance intention to use mobile payment apps. *International Journal of Bank Marketing*, 37(2), 646–664. <https://doi.org/10.1108/IJBM-03-2018-0072>
- Joshi, S. P., Dahal, R. K., Karki, D., & Ghimire, B. (2024). Consumer behavior and decision-making in health insurance policy purchases in Nepal. *Nepalese Journal of Insurance and Social Security*, 7(1) 100–116. <https://doi.org/10.58665/njiss.66>
- Karki, D., & Dahal, R. K. (2024). Service quality dimensions and investor satisfaction on online stock trading system in Nepal. *Journal of Service, Innovation and Sustainable Development*, 5(1), 63–81. <http://dx.doi.org/10.33168/SISD.2024.0106>
- Karki, D., Bhattarai, G., & Dahal, R. K. (2024). User acceptance determinants in m-banking adoption. *Nurture*, 18(1), 201–213. <https://doi.org/10.55951/nurture.v18i1.565>
- Khadka, P. B., Karki, D., Dahal, R. K., & Khanal, D. (2024). Mapping the landscape of green finance and banking performance research: A bibliometric analysis. *Journal of Service, Innovation and Sustainable Development*, 5(1), 176–193. <https://doi.org/10.33168/SISD.2024.0110>
- Malaquias, R. F., & Hwang, Y. (2016). An empirical study on trust in mobile banking: A developing country perspective. *Computers in Human Behavior*, 54, 453–461. <https://doi.org/10.1016/j.chb.2015.08.039>
- Marshal, R. (2002). *Paperless banking: The transition from traditional to digital transactions*. *Banking and Finance Review*, 8(1), 75-89.
- Papameletiou, A. (1999). Electronic payments and their role in the expansion of e-commerce. *E-Commerce Journal*, 5(2), 30-50.
- Quach, S., Thaichon, P., & Jebarajakirthy, C. (2016). Internet service providers' service quality and its effect on customer loyalty of different usage patterns. *Journal of Retailing and Consumer Services*, 32, 1-10
- Rai, B., & Dahal, R. K. (2024). Social media marketing initiatives and brand loyalty. *Nepal Journal of Multidisciplinary Research*, 7(1), 22–39. <https://doi.org/10.3126/njmr.v7i1.65241>
- Ramos-de-Luna, I., Montoro-Ríos, F., & Liébana-Cabanillas, F. (2016). Determinants of the intention to use NFC technology as a payment system: An acceptance model approach. *Information Systems and e-Business Management*, 14(2), 293–314. <https://doi.org/10.1007/s10257-015-0284-5>
- Sausi, J. M., Mtebe, J. S., & Mbelwa, J. (2021). Evaluating user satisfaction with the e-payment gateway system in Tanzania. *South African Journal of Information Management*, 23(1), a1430. <https://doi.org/10.4102/sajim.v23i1.1430>
- Shaikh, A. A., & Karjaluoto, H. (2015). Mobile banking adoption: A literature review. *Telematics and Informatics*, 32(1), 129–142. <https://doi.org/10.1016/j.tele.2014.05.003>
- Sharma, B. B., Shahi, B. J., & Dahal, R. K. (2023). Customer loyalty and relationship marketing in the Nepalese telecommunications sector. *The Harvest*, 2(1), 1–16. <https://doi.org/10.3126/harvest.v2i1.54405>
- Sharma, S. K., & Sharma, M. (2019). Examining the role of trust and quality dimensions in the actual usage of mobile banking services: An empirical investigation. *International Journal of Information Management*, 44, 65–75. <https://doi.org/10.1016/j.ijinfomgt.2018.09.013>



- Shrestha, R. (2020). Factors Affecting Customer Satisfaction of E-Payments System. *KMC Research Journal*, 4(4), 139–152. <https://doi.org/10.3126/kmcrrj.v4i4.46474>
- Singh, S., & Srivastava, R. K. (2020). Understanding the intention to use mobile banking by existing online banking customers: An empirical study. *Journal of Financial Services Marketing*, 25(3), 86–96. <https://doi.org/10.1057/s41264-020-00074-w>
- Solat, S. (2017). Security of Electronic Payment Systems: A Comprehensive Survey. *arXiv preprint arXiv:1701.04556*. <https://arxiv.org/abs/1701.04556>
- Supriyati, S., & Nurfiqo, E. (2019). Effectiveness of Payment Gateway in E-Commerce. In *Proceedings of the 1st International Conference on Informatics, Engineering, Science and Technology (INCITEST 2019)*. <https://doi.org/10.4108/eai.18-7-2019.2287932EUDL>
- Venkatesh, V., Thong, J. Y., & Xu, X. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the Association for Information Systems*, 17(5), 328–376. <https://doi.org/10.17705/1jais.00428>
- Zhou, T. (2011). An empirical examination of initial trust in mobile banking. *Internet Research*, 23(3), 317–339. <https://doi.org/10.1108/10662241111176353>