
Gen-Z's Impetus and Engagement in the Internet Banking Revolution: A Review

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Abstract

As the digital landscape continues to evolve, the emergence of Generation Z (Gen-Z) has profoundly influenced various aspects of society, including the banking sector. This systematic literature review explores the significance and pivotal role of Gen-Z in catalysing the Internet banking revolution. Drawing upon a comprehensive analysis of scholarly articles, this review examines how the distinct characteristics, preferences, and behaviours of Gen-Z individuals have reshaped consumer banking and propelled the adoption of digital banking services. It. Moreover, this review delves into the technological fluency, social connectivity, and mobile-centric lifestyle of Gen-Z, which have fundamentally altered traditional banking paradigms and necessitated innovative digital solutions.

We carried out an examination of the existing literature on digital banking by analysing our dataset of 77 articles. This review synthesises empirical findings regarding Gen-Z's expectations, attitudes, and trust factors associated with Internet banking platforms, shedding light on the pivotal role of cybersecurity measures, and personalised financial services in attracting and retaining Gen-Z customers. We also pinpointed areas of research that are lacking based on the clusters we identified. These findings establish a solid groundwork for future studies in this domain.

Keywords: Internet Banking, Gen-Z.

1. Introduction

In an era characterised by rapid technological evolution, the financial landscape has undergone significant transformation, propelled by the emergence of numerous internet banking services. The advent of internet banking services has revolutionised the financial landscape by promoting financial inclusion and convenience (Williams, 2022). The driving force behind this transformation is Gen Z, the generational cohort which is born between mid-1990s and early 2010, whose digital nativism and technological fluency have reshaped consumer behaviours and expectations. Being the first generation who has grown up entirely in the digital era, Gen Z has seamlessly integrated digital platforms into various aspects of their lives, including financial transactions (Srinivasan & Jain, 2021). Their demands have prompted financial institutions to enhance their digital offerings, incorporating features such as mobile-friendly interfaces, biometric authentication, and instant account access (Hasbullah et al., 2016). This

generation's preference for on-the-go banking has accelerated the development of robust mobile applications, enabling secure transactions and financial management from anywhere, at any time (Ting et al., 2016). Financial institutions have responded by integrating personalised dashboards, tailored financial advice, and predictive analytics to cater to individual needs and preferences (Johnson, 2022). This generation's openness to novel technologies, such as artificial intelligence (AI) and machine learning (ML), has also facilitated the integration of intelligent virtual assistants and chatbots, improving customer service and enhancing the overall banking experience (Wilson, 2020). Furthermore, Gen Z's emphasis on social responsibility and environmental consciousness has driven financial institutions to incorporate sustainable banking practices into their digital platforms (Anderson, 2023). Features like paperless transactions, carbon footprint tracking, and ethical investment options have become increasingly prevalent, aligning with Gen Z's values and

contributing to the overall advancement of internet banking services (Thompson, 2021).

2. Objectives

- To understand the evolution of Internet Banking and the novel financial technologies affecting it.
- To identify the factors driving Generation Z's engagement with internet banking services.

3. Research Questions

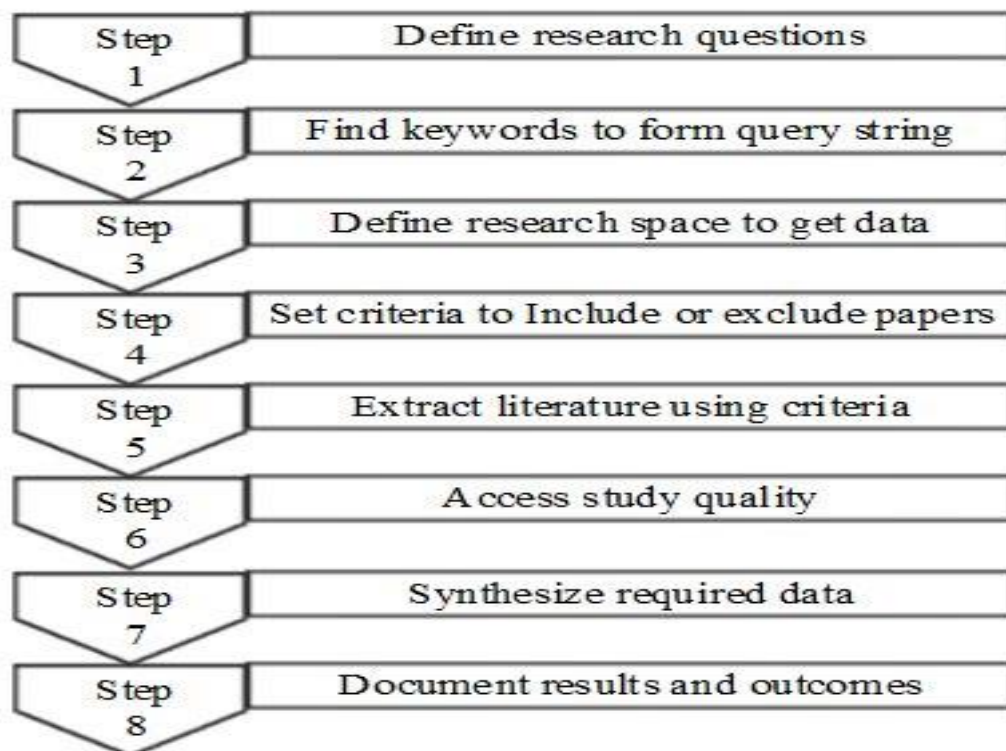
RQ1: How novel financial technologies can be integrated for betterment of internet banking services.

RQ2: What are the factors driving Gen Z's engagement with internet banking services.

4. Research Methodology

This literature review adheres to a comparable structure and methodology as outlined by Anwer & Aftab (2017) and Tranfield et al. (2003), illustrated in Figure 1. The bibliometric analysis involved the following steps: formulating a review protocol, searching and screening the literature (publications, co-occurrence, and citations), synthesising the data, visualising the data, interpreting the data, and drawing conclusions.

Figure 1. Process of systematic literature review



Source: Anwer & Aftab (2017)

4.1 Bibliometric Data

New advancements in research and technology continually contribute fresh insights to existing knowledge systems. A bibliometric analysis is a method used to evaluate and analyse scholarly literature within a specific field or topic. It involves examining the citation patterns, publication trends, and characteristics of academic publications such as journals, articles, books, or patents (Kitchenham,

2004). For our study, we used the technique of Bibliographic coupling. This method identifies relatedness between documents based on their shared references. It helps reveal clusters of related research within a field. We utilised the 'Mendeley Reference Manager' to organise the articles within the dataset. Additionally, 'VOS Viewer' aided in highlighting various keywords and variables

through clustering techniques, enabling us to draw critical insights from the visualisations.

4.2 Sample Size

We employed the keywords "Internet Banking" and "Generation Z" in our search for relevant literature on Scienedirect (Scopus), recognized as a comprehensive peer-reviewed literature and citation database. It is important to note that while Scienedirect provides a wealth of information, the search results include literature where the specified aspects are not the primary focus of the study. While writing this paper, we have also cited works from papers published in other reputed journals as they contribute majorly in this area of study but were not included in Scienedirect database.

Initially, our search on April 2nd, 2024 yielded 167 articles. Subsequently, we refined the document types to "review articles," "research articles," and "book chapters." We excluded areas such as 'Computer Science,' 'Engineering' and 'Mathematics,' and restricted the language to 'English'. Following this, we removed articles that didn't revolve around our research question and eliminated duplicates. Given that this field has notably progressed since the widespread adoption of the internet and mobile devices, we excluded papers published before 2005, resulting in our final dataset comprising 77 articles (see Table 1). The search results included titles, authors, keywords, references, abstracts, and full papers, all of which were processed in CSV format and references being extracted with the help of Endnote.

Particulars		No. of Studies
Year	2024	5
	2023	11
	2022	10
	2021	13
	2020	4
	Pre 2020	34
		N=77
Research Type	Review Articles	0
	Research Articles	70
	Book Chapters	7
	Case Reports	Excluded
	Discussions	Excluded
	Short Communications	Excluded
	Editorials	Excluded

Table 1: Dataset for review as drawn from Scienedirect

5. Analysis of the Dataset

Among the top journals having published articles in this focus area were 'Technological Forecasting and Social Change', 'Journal of Retailing and Consumer

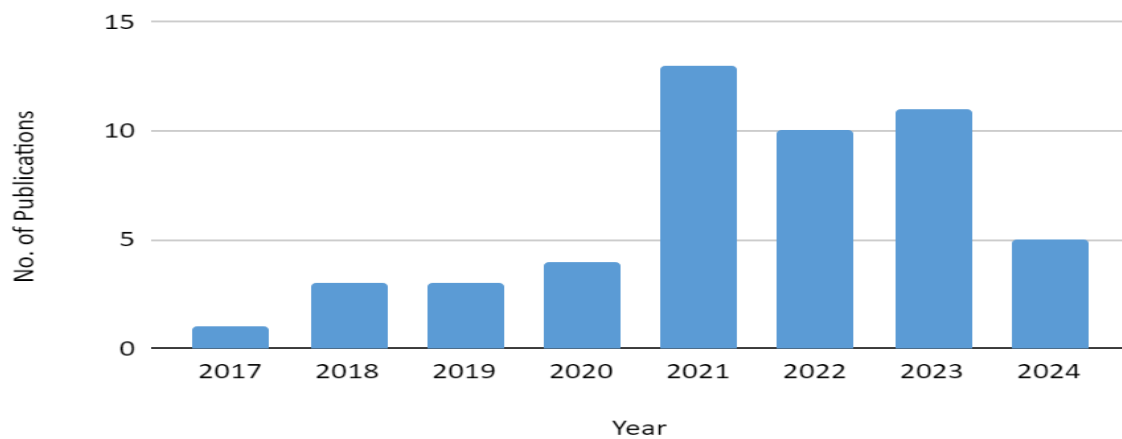
Services', 'Procedia - Social and Behavioral Sciences', 'International Journal of Information Management' and 'Economic Modelling'. The grouping of research papers based on publications is illustrated in Table 2.

Journal and Proceedings Name	Total
Technological Forecasting and Social Change	6
Journal of Retailing and Consumer Services	5
Procedia - Social and Behavioral Sciences	5
International Journal of Information Management	3
Economic Modelling	3
Computers & Industrial Engineering	2
Journal of Business Research	2
Omega	2
European Management Journal	2
Procedia Economics and Finance	2
Borsa Istanbul Review	2
Sustainable Production and Consumption	2
Physica A: Statistical Mechanics and its Applications	1
Information Economics and Policy	1
Journal of Development Economics	1
Other	38

Table 2. Classification of articles by publication.

Graph 1: Number of publications over the years.

No. of publications per year



Among the published articles (Table 1), research articles make the most significant contribution, followed by book chapters. The exploration of internet banking within the context of Generation Z represents a relatively new area of knowledge, particularly considering that the majority of studies

have been conducted within the last six years (2018-2024). Since 2018, as indicated by the linear trendline (Graph 1), there has been a noticeable increase in research activity, reflecting a growing interest in studying and understanding internet banking for Generation Z.

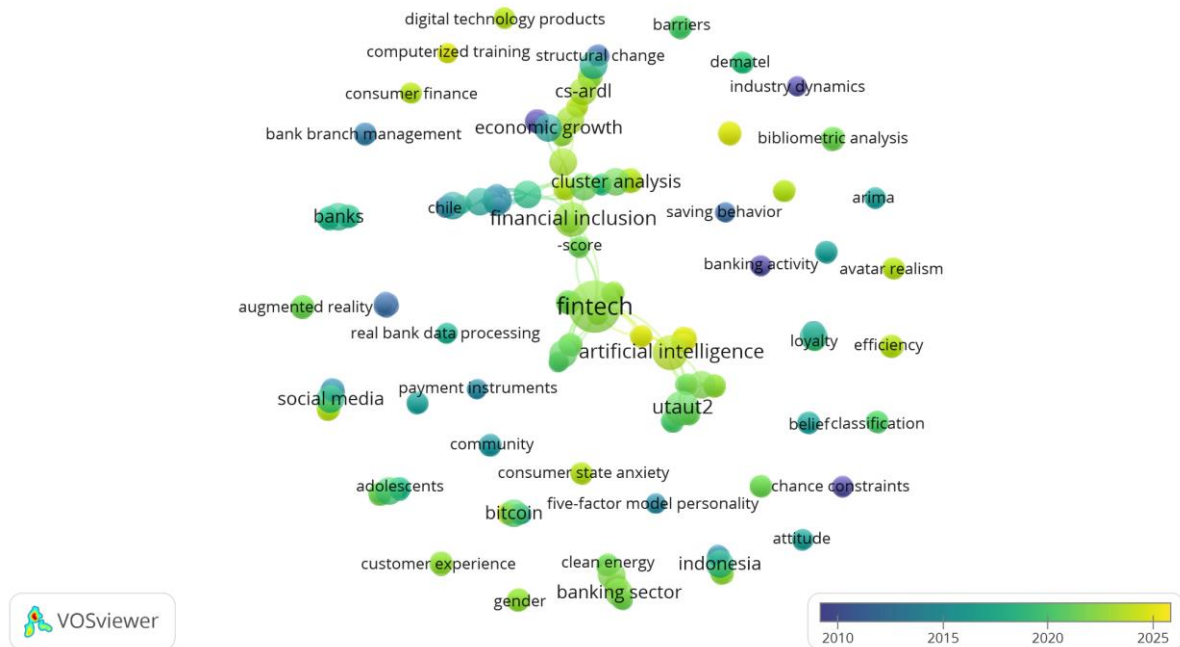


Figure 2: Network of keywords in dataset. {N=77 (items:335, clusters:46, links:849)}

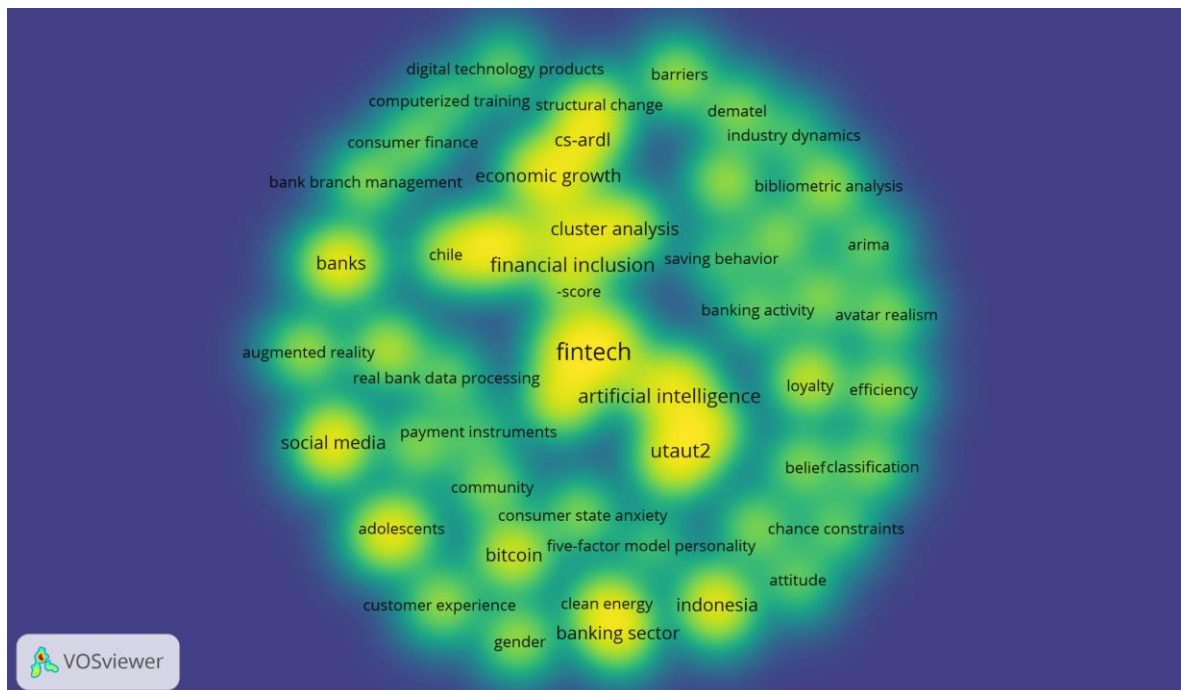


Figure 3: Density Visualisation of dataset.

As depicted in Figure 2 and Figure 3, the prevailing terms and keywords found in studies in our dataset include 'fintech,' 'financial inclusion,' 'utaut2,' 'artificial intelligence,' and 'economic growth.' These

terms underscore the focus areas and analytical interests of researchers in this domain. It is also quite evidently observed that there exists a spread among the variables and many studies have not correlated

many variables, hence, there exists much scope for further research.

6. Analysis of Existing Research

As outlined in the methodology section of this review, this paper scrutinises the current literature to

explore the objectives, contexts, contributions, research challenges, and trends in digital finance. Below are the different focal points along with their corresponding research dimensions.

Focus area	Related Studies
The digital banking transition	The digital economy (X. Chen et al., 2022; Liang et al., 2024; Verma et al., 2023) FinTech and commercial banks (X. Chen et al., 2021) Fintech & financial development (Rahman et al., 2023; Pamucar et al., 2021; Z. Wang, 2007) Digital Payments (Darehshiri et al., 2022) Cryptocurrencies (Frunza, 2016; Kumari et al., 2024) AI applications (Cabrera-Sánchez et al., 2021; Zhu et al., 2024) P2P lending (A. Basha et al., 2021) Foreign direct investment in fintech services (Fernandes & Paunov, 2012; Konara et al., 2019)
Gen-Z and banking	Factors affecting adaptation of Digital Banking (Hasbullah et al., 2016; Hosseini et al., 2022; Molinillo et al., 2021; Ting et al., 2016) Digital-only banking experience (Z. Chen et al., 2018; Purwanegara et al., 2014; Windasari et al., 2022) Segregation and profiling of Mobile payment users (Jaiswal et al., 2023) Highly-educated students' acceptance of fintech (Baudier et al., 2020)
Perceptions and habits	Exploring the trade-off between benefit and risk perception (Y. Wang et al., 2021) Payment Habits and decision making (Darehshiri et al., 2022; Dinçer et al., 2019; Kosse & Vermeulen, 2014) perceived enjoyment on future use intentions (Huang et al., 2024; Qasem, 2021) Consumers' Resistance towards digital technologies (Alraja, 2022; Nel & Boshoff, 2021; Talwar et al., 2020) Impact various variables on Technology Acceptance (Consoli, 2005; Gatautis & Medziausiene, 2014; Lyu et al., 2023; Özbek et al., 2014; Ting et al., 2016)
Financial literacy & inclusion	Influence of financial literacy on the internet banking behaviour (Andreou & Anyfantaki, 2021; Sander et al., 2016) Financial Inclusion (Banna et al., 2021; Bui & Luong, 2023)
Sustainability	Sustainability (Gunawan et al., 2022; Mandal & Pal, 2023) ECSR (Rashid et al., 2015)
Digital Security	Digital Security for young women from Gen-z (Mahmud et al., 2023) Mobile Application Challenges (Jaiswal et al., 2023; Khodabakhshi, 2009; Zheng & Ni, 2006) Risk (Xu et al., 2020)

7. Discussions

7.1 Research on the Digital Finance Revolution

Going through our dataset, we found a few articles exploring novel technologies within the digital banking domain. However numerous innovations arising in fintech still remain to be leveraged for further betterment of these services. The digital

banking transition has revolutionised the way financial services are delivered, providing customers with convenient access to banking services anytime, anywhere (Team, 2023). With the rise of technology and the widespread use of mobile devices, digital banking has become the preferred method for many customers (Xie et al., 2008). It has led to increased competition among banks, as they

strive to offer seamless and user-friendly digital experiences to attract as well as retain customers. With the rise of digital banking and the use of blockchain tech, the financial landscape is evolving at a rapid pace. Traditional banking products and services are being challenged by innovative fintech solutions that offer a range of benefits (Mărăcine et al., 2020). These benefits include enhanced transaction security, faster and more cost-effective money exchanges, increased accessibility to financial services, and improved efficiency in managing personal accounts.

One key innovation that is gaining traction is the use of mobile payment platforms. These platforms allow users to make payments and transfer money with just a few taps on their smartphones, making transactions more seamless and convenient than ever before. Furthermore, fintech companies are revolutionising electronic payment solutions by integrating them into decentralised blockchain architectural structures (Lee & Shin, 2018). This ensures a high level of communication security and facilitates the circulation of virtual & crypto currency, which was previously impossible making use of traditional banking system (Noerlina et al., 2023). Furthermore, the rise of decentralised finance (DeFi) built on blockchain technology presents a paradigm shift in internet banking, offering decentralised, permissionless financial services. Smart contracts deployed on blockchain networks automate various banking processes such as loan approvals, asset management, and payment settlements, thereby reducing costs and increasing efficiency while ensuring transparency and immutability.

Furthermore, in the context of RQ1, the integration of artificial intelligence in banking is revolutionising customer experience by providing personalised services and streamlining processes. From chatbots that assist customers with their queries to predictive analysis for risk management, AI is reshaping the way banks interact with their customers and manage their operations. Additionally, the emergence of open banking is driving collaboration and fostering a more interconnected financial ecosystem. By approving third-party fintech providers to access the banking related data, open banking is paving the

way for innovative financial solutions and enhanced customer experiences.

As technology continues to advance, internet banking services are facing increasing competition from fintech startups (Smith, 2009). These startups are disrupting internet banking with their agile and customer-centric approach by offering innovative solutions that are easy to use and convenient for consumers (Anan et al., 2023). One significant aspect of this competition lies in the realm of user experience, where fintech startups leverage cutting-edge technologies and intuitive interfaces to deliver seamless and personalised banking experiences, thereby outpacing the often cumbersome and rigid systems of the traditional internet banking service. In response to this competitive landscape, internet banking services are increasingly seeking to collaborate with or acquire fintech startups to enhance their digital capabilities and stay competitive in the market (Hornuf et al., 2020).

In conclusion, post the critical evaluation of our dataset and other scholarly literature, it is evident that the novel innovations in banking and payments are revolutionising the financial industry by providing better transaction security, faster exchanges of money, increased accessibility to financial services, and improved efficiency in managing personal accounts and businesses (Lee & Shin, 2018).

7.2 Research on Gen-Z and Internet Banking

Post the analysis of various articles within and outside of our dataset, it is observed that the role of Gen Z in the adaptation and promotion of internet banking is crucial in shaping digital banking services of the present day. As the initial generation to grow up fully in the digital age, the Gen Z is well-versed in using technology for various aspects of their lives, including managing their finances (Noerlina et al., 2023). With their comfort and fluency in using digital tools, Gen Z is driving the demand for convenient and accessible banking solutions. They are heavily reliant on their smartphones and expect seamless digital experiences, making internet banking a natural fit for their preferences. Gen Z's preferences and behaviours regarding banking services are distinct

from those of previous generations. They value convenience, speed, and personalised experiences when managing their finances. Traditional banking processes, such as visiting branches or filling out paper forms, are perceived as outdated and cumbersome by Gen Z. Instead, they prefer the convenience of conducting banking transactions online or through mobile apps. Furthermore, Gen Z's preference for electronic communication and their avid use of social media platforms provide them with a powerful platform to advocate for internet banking services (Bilgihan, 2016).

Gen Z's experience with technology and their familiarity with online platforms make them valuable influencers in promoting internet banking to their peers (Toplin, 2020). This generation's unique characteristics, preferences, and behaviours have profound implications for how banks design and deliver their online banking services. They can share their positive experiences with internet banking on social media, creating a buzz and generating interest among their friends and followers. Moreover, Gen Z's influence extends beyond their own usage. They often act as early adopters and influencers within their communities, encouraging older generations to embrace digital banking and fostering a widespread acceptance of internet banking services.

Certain variables were found in different studies that influence the adaptation of internet banking services in Gen-Z (RQ2). A few studies from our dataset explored the same. One major study (Windasari et al., 2022) in our dataset revealed that all variables, with the exception of curiosity & sales promotions, significantly influence the intention to use digital banking. It emphasises the importance of developing an appealing as well as a user-friendly digital interface to enhance the ease-of-use for the customers. In order to ensure positive customer experience, additional factors such as consumer rewards, distinctive features, and positive word-of-mouth must also be considered and implemented. Another variable that affects the adaptation of internet banking among Gen Z customers is the level of trust and security associated with online transactions (Agwu, 2012). Furthermore, the user experience and interface design of internet banking

platforms play a significant role in influencing Gen Z customers' adoption of these services. An intuitive and user-friendly interface, coupled with seamless navigation, is essential to capture the attention of this tech-savvy generation (Koch, 2019).

Various studies have highlighted the significant role of trust in influencing Gen Z's adaptation of internet banking (Kassim & Haruna, 2020; Puruhita, 2018; Susanto et al., 2013; Suh & Han, 2002). According to Davis, trust seems to be a critical factor towards the acceptance of new technologies. Gen Z individuals are more likely to embrace online banking services if they perceive the platform to be trustworthy and secure. Furthermore, focusing on RQ2, a study conducted by Zhang et al. found that Gen Z's trust in internet banking is influenced by factors such as data privacy, encryption, and the reputation of the banking institution.

In summary, Generation Z is playing a crucial role in not only driving the adoption of internet banking but also shaping its evolution by demanding innovation, convenience, and personalization (Koch, 2019). As this generation continues to gain financial independence, their influence on the banking industry will only grow, making their participation in the adaptation and promotion of internet banking of utmost importance.

8. Recommendations

Although, post the analysis of our dataset, it is observed that there are not many studies suggesting what measures could be taken by banks to cater the needs and preferences of Generation Z, the following measures are noteworthy.

- Firstly, banks should implement strategies to enhance their internet banking platforms. These strategies should include a Mobile-First Approach, recognizing that Gen Z primarily accesses the internet through smartphones catering to Gen Z's desire for convenience and efficiency.
- In regard to RQ1, it is crucial that banks leverage data analytics and artificial intelligence to deliver personalised banking experiences to Gen Z customers. By analysing transaction history, spending patterns, and

browsing behaviour, banks can offer tailored product recommendations and proactive financial advice.

- Moreover, w.r.t. RQ1, in the realm of internet banking, integrating new financial technologies presents a compelling opportunity for banks to elevate their services and stay well ahead of the competition. By exploring and integrating some new financial technologies like Robotic Process Automation (RPA), Internet of Things (IoT), Application Programming Interfaces (APIs), Artificial Intelligence (AI) and Machine Learning, Edge Computing, Voice Recognition and Natural Language Processing (NLP) etc. into their internet banking services, banks can unlock opportunities for innovation, differentiation, and value creation, ultimately delivering enhanced experiences and outcomes for their customers which would be highly welcomed by Gen Z customers.
- W.r.t RQ2, the availability of comprehensive digital financial management tools and personalised offerings influence Gen Z customers' decision to embrace internet banking. With the increasing emphasis on financial literacy and independence among this demographic, the presence of user-friendly budgeting, saving, and investment tools within internet banking platforms can significantly impact their adaptation.

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- Recognizing that Gen Z is highly active on social media platforms, banks should focus more on integrating banking services with social media channels. This would enable Gen Z customers to perform banking transactions, such as sending money to friends or checking account balances, directly within their favourite social apps.

9. Conclusion

Generation Z represents a significant demographic segment that is reshaping the landscape of internet banking. Their digital fluency, preferences for convenience and personalization, and propensity for online interactions are driving banks to innovate and adapt their internet banking platforms accordingly. By understanding and catering to the unique needs of Generation Z, banks can position themselves for long-term success in the digital era of banking. Moreover, the integration of new financial technologies presents banks with unprecedented opportunities to enhance internet banking services and deliver superior customer experiences. By leveraging technologies like Robotic Process Automation (RPA), Internet of Things (IoT), Application Programming Interfaces (APIs), Artificial Intelligence (AI) and Machine Learning, Edge Computing, Voice Recognition, Natural Language Processing (NLP) etc., banks can strengthen security measures, personalise offerings, streamline operations, and elevate the overall user experience in internet banking.

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