FinTech Innovation and Financial Inclusion in Malaysia: A Systematic Review

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Abstract—Financial Inclusion and Sustainable development are significant concerns for all countries. It has become a top priority for all governments, both developed and developing. Financial technology (FinTech) is an emerging technology that streamlines the provision of financial services via automation. The dynamic digital economy in Malaysia is creating a solid basis for the expansion of FinTech. The rapid progress in technology and the growing speed of digitalization are the variables that contribute to the increased acceptance of FinTech among industry participants. To achieve long-term economic growth, Malaysia must prioritize fintech innovation seamlessly integrated with strategic policies. The main objective of this study is to measure the contribution of FinTech to Financial Inclusion in Malaysia. To do this, this study used the Systematic Literature Review method from 2018–2024. Additionally, The Bibliometrics approaches were used in 435 articles in this study to gather data on the production of scientific research and the key topic areas and their progression.

Keywords—Fintech, Sustainable Economic Growth, Digitalization, Bibliometrics Analysis

I. Introduction

Technology plays a crucial role in the financial industry, offering a chance to enhance productivity and provide customers with improved experiences and flexibility. However, before the banking industry can embrace FinTech services, it must gauge customer readiness to adopt such technological advancements. For example, financial service providers may provide mobile banking, which allows customers to conduct financial transactions remotely using mobile devices such as smartphones or tablets. The use of debit or credit cards to effect an Electronic Funds Transfer at a Point of Sale (FTPOS) payment is also included in these services, and mobile payments [1].

There are several essential benefits to the development of financial technology: (i) user-friendly interfaces across various devices and platforms; (ii) cloud computing, which allows for distributed storage and simplified access to financial data and services without the requirement for physical infrastructure; (iii) cryptocurrency, which facilitates international transactions with fewer middlemen and more transparency in payments; and (iv) mobile payment, which provides a fresh take on business and financial management with increased security, speed, and innovation [2].

In Malaysia, the burgeoning development of FinTech has garnered significant market attention. The FinTech sector is projected to sustain rapid, dynamic, and innovative growth. Fundamentally, FinTech encompasses utilizing computers and other associated digital technologies in financial services, thereby exerting a substantial influence on financial entities within the industry [3].

In 2020, the digital economy's contribution to Malaysia's GDP reached 20%, up from 19.1% in 2019, amounting to RM289 billion. Malaysia also ranked highly in the 2019 Network Readiness Index by the World Economic Forum, outperforming 139 surveyed countries and leading among emerging and developing Asian economies. After nearly a decade of expansion, this growth has created competitive advantages for financial services companies in the FinTech sector [4].

The emerging development of financial technology has garnered significant interest from the Malaysian market. Despite the assertions that it poses potential dangers and jeopardizes the survival of conventional banking, it also has the potential to create opportunities when they complement each other. Bank

Negara Malaysia (BNM) has recently warned that banks may see a revenue decline by 2025 due to the rapid progress of FinTech, which has isolated them from the conventional banking sector. People perceive FinTech as having an informal impact on the activities of established banks. The rapidly expanding FinTech industry offers a unique opportunity to explore its impact on Malaysia's financial growth, a topic rarely explored through empirical research. Prior research has examined the overall progress of FinTech acceptance, but as far as we know, no study has specifically explored the connection between FinTech adoption and financial development, specifically in Malaysia [5].

The emergence of Financial technology (FinTech) has caused a paradigm shift in the delivery of banking and financial services. The industry's rapid growth has led to increased interest from academia and industry players, eager to study the Fintech ecosystem's modus operandi. Customers are attracted to Fintech services due to the benefits of ease, speed, convenience, and low cost of delivery. As a result, the Fintech industry has seen the establishment of numerous startups, Bigtechs, and non-bank firms, all vying for market space in the financial industry. The resulting disruption has made traditional banks compete with Fintechs. As FinTech industry practitioners, banks can benefit from adopting FinTech and its effects on Malaysia's financial inclusion [6].

Payment services are the most extensive subset of financial technology, encompassing various interactions such as insurance technology, financial data, payment and banking systems, and mobile banking. The financial sector dimension details essential parts of the financial services industry that stand to gain from Fintech's application. Services such as banking, stock trading, asset management, insurance, foreign currency, transaction payments, and more are all part of it. Crowdfunding, peer-to-peer lending, business-to-government/regulator (B2G), platform-based business models, business-to-consumer (B2C), and business-to-business-to-consumer (B2B2C) are some of the essential types of models explained by the company's business model. Finally, the technological dimensions show the company's many forms of technology utilization. Everything from cloud computing and big data to blockchain and the Internet of Things (IoT) to quantum computing and augmented and virtual reality (AR/VR) is a part of it [7]. The following Figure 1 shows the digital payments and e-wallets leading Malaysian fintech.
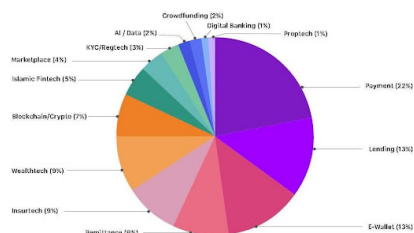

Fig. 1. Malaysian fintech companies operating in a variety of sectors (Source: Malaysia FinTech Report 2023).

The fintech sector only existed in its current form before in the late 1990s and early 2000s. However, the development of computer systems and the expansion of electronic banking within the financial services sector throughout the 1970s and 1980s may be linked to the inception of fintech. These early inventions laid the foundation for fintech's growth and development in the second half of the 20th century and beyond. The fintech sector has developed quickly and dynamically, undergoing major transformations annually [8].

There has been a lot of development and progress in the financial technology industry throughout the years. Those who quickly embraced the technology in the late 1990s and early 2000s provided services, including internet banking, payment processing, and stock trading. Mobile payment systems and peer-to-peer lending platforms emerged in 2005–2010. Crowdfunding and other forms of peer-to-peer financing became popular after the 2008 financial crisis. Crowdfunding and digital currencies such as Bitcoin exploded in popularity between 2010 and 2015. The rise of digital-only banking services and robo-advisers occurred between 2015 and 2020. As a result of the COVID-19 epidemic, digital financial services that use AI and ML have grown rapidly. In the years after 2020, the financial technology sector will heavily emphasize digital insurance, digital securities, open banking, and online lending [9].
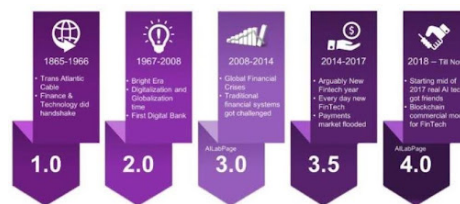

Fig. 2. Evolution of the fintech industry (Source: Zigurat Institute of Technology)

II. LITERATURE REVIEW

A systematic literature review (SLR) is a research process that gathers and thoroughly analyzes the literature already written on a particular subject. It entails formulating research questions, identifying relevant studies, assessing their quality, and compiling the findings. SLRs are widely used to offer an overview of the body of evidence on a particular issue and are undertaken in various areas, including computer science, social sciences, and healthcare. This study examines the use of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. The three primary parts of the PRISMA approach include searching extensively for applicable research, evaluating an article's eligibility, gathering relevant data from the publications chosen, and finally summarizing the results of the papers included [10].

A. Eligibility and exclusion criteria

A literature review is used to come up with research hypotheses. Researchers are required to follow four main

guidelines during this procedure. One problem is that real-world field data is being overshadowed by abstract information such as text or numbers. The second red flag is the absence of fieldwork: all the focus is on utilizing library data, which is easily accessible. Secondary sources, such as library materials, refer to already published information rather than gathering primary data from the field. In addition to geographical and chronological considerations, the state of library data also includes other aspects.

For this reason, this study has limited its search to journal articles published in English to circumvent any problems with translation. It has also chosen to include publications that deal only with empirical data and those published between 2018 and 2023.

B. Systematic Review Process

There were four distinct phases to the systematic review process. The first step is to settle on a set of search phrases. Based on previous research and the thesaurus, we used terms linked to FinTech and Economic Growth. There were 435 journal papers that came out of the review process. We found 19 duplicate articles while assessing the other scholarly works. We removed them. After a thorough review of the titles and abstracts of the chosen papers, 416 articles made it to the next round of the screening process, which aimed to remove any irrelevant publications. The acquisition of the whole piece takes place in the third step, which is called eligibility. After careful review, 249 articles were rejected because they needed to cover the subject adequately. The last stage of the evaluation included selecting 22 articles analyzed according to the PRISMA guidelines, and we provided the results as an analysis section.

The database has been created using the search terms-"TITLE-ABS-KEY (fintech OR "Financial Technology") AND ("Financial Inclusion" OR "Sustainable Economic Growth") AND (Malaysia) AND PUBYEAR ¿ 2017 AND PUBYEAR ¡ 2025 AND (LIMIT-TO (LANGUAGE, "English"))"

C. Data Abstraction and Analysis

After analyzing the remaining articles using the four cascaded stages described in sub-Section 'B,' the focus of the study shifted to specific research that provided solutions to the identified issues. Relevant data was collected by initially reviewing the abstracts and then the entire article to pinpoint significant works related to Fintech and Economic Growth. Subsequently, qualitative analysis was performed using content assessment.
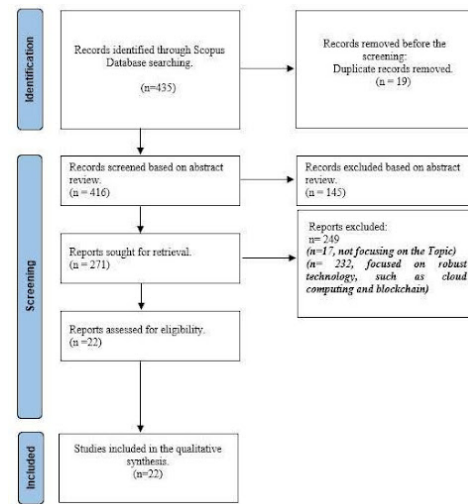

Fig. 3. Prisma Model, drawn by Authors based on David Moher (2009)

III. RESEARCH METHOD

This study employs a systematic review technique to achieve clarity and lack of ambiguity for the audience. Furthermore, a well-formulated search query may improve the effectiveness of systematic reviews and demonstrate the dynamic nature of academic publications that discuss relevant topics in Financial Technology [11].

This study aims to set a foundation for future researchers, enabling them to conduct more investigations and comprehend previous research comprehensively. To accomplish this objective, we thoroughly examined existing literature and methodologically analyzed the material using bibliometrics. Using these methods, we identified the most prominent authors, journals, institutions, keywords, citations, publishing nations, and publication years. This organized data is valuable for a deeper understanding of Financial Technology and Financial Inclusion in the contemporary landscape.
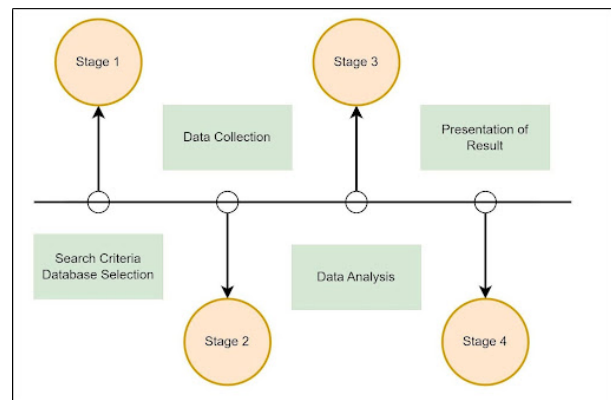

Fig. 4. Stage of Bibliometrics, Drawn by Authors

To examine the selected articles, we used the web-specific R package called 'Biblioshiny.' This package offers many techniques for data analysis, including those based on Brad-

ford's law, global citations, h-index, g-index, and m- index. In the second stage, we used scientific mapping tools to identify crucial research subjects and streams. For this study, we used comprehensive keywords as input data, enabling us to thoroughly comprehend the data and propose a future research strategy. By completing these evaluation procedures, we aim to enhance comprehension of the present level of research and direct future research endeavors in this particular topic.

IV. RESULT DISCUSSION

The study organizes its bibliometric analysis into eight sections. The first section provides a publication timeline, showing the number of papers published per year. The second section highlights the top five sources with the most citations. The third section presents information about the most active authors. The fourth section lists the top five blockchain publications. The fifth section identifies the countries that have published in the fields of fintech and financial inclusion. The sixth section lists the most prolific affiliations. The seventh section introduces the most active collaborations for fintech and financial inclusion. Finally, the eighth section introduces the keyword co-occurrence [12].

TABLE I
DESCRIPTIVE CHARACTERISTICS OF FINTECH AND FINANCIAL INCLUSION

Description	Results
Main Information About Data	
Timespan	2018:2024
Sources (Journals, Books, etc)	253
Documents	435
Annual Growth Rate%	62.63
Document Average Age	1.5
Average Citations per Doc	9.857
Reference	0
DOCUMENT CONTENTS	
Keywords Plus (ID)	881
Author's Keywords (DE)	1115
AUTHORS	
Authors	1250
Authors of Single-authored Docs	41
AUTHORS COLLABORATION	
Single-authored Docs	44
Co-Authors per Doc	3.42
International Co-authorships %	42.99
DOCUMENT TYPES	
Article	316
Article Article	1
Article Book Chapter	1
Article Review	1
Book	9
Book Chapter	58
Conference Paper	27
Conference Paper Article	1
Editorial	1
Review	20

TABLE II
TOP TEN JOURNAL

Sources	Articles
Resources Policy	23
JOITMC	13
Sustainability (Switzerland)	11
Fintech in Islamic financial institutions	9
Qualitative research in financial markets	8
Journal of Islamic Marketing	7
Journal of risk and financial management	7
Heliyon	6
IJIMEFM	6
Journal of Financial Services Marketing	6

TABLE III
TOP AUTHORS

Element	h_index	g_index	m_index	TC	NP	PY_start
Rabbani MR	7	8	1.4	321	8	2020
Al-Okaily M	6	6	1.5	122	6	2021
Hassan MK	5	10	1.25	110	13	2021
Baber H	4	4	0.8	91	4	2020
Banna H	4	5	1	210	5	2021
Khan S	4	6	0.8	203	6	2020
Nathan RJ	4	6	1	153	6	2021
Setiawan B	4	6	1	154	6	2021
Siddik AB	4	4	1.33	112	4	2022
Al-Gasawneh JA	3	3	1	28	3	2022

TABLE IV
TOP INSTITUTIONS

Affiliation	Articles
University of Bahrain	24
University of New Orleans	14
Universiti Sains Malaysia	13
UCSI University	11
Bina Nusantara University	10
Kingdom University	10
Multimedia University	10
Airlangga University	10
Universiti Teknologi Mara	10
Hungarian University of Agriculture and Life Sciences	9

Fig. 5. Most Frequent Keywords for and Financial Inclusion

Fig. 6. Word Cloud (Authors Keywords)
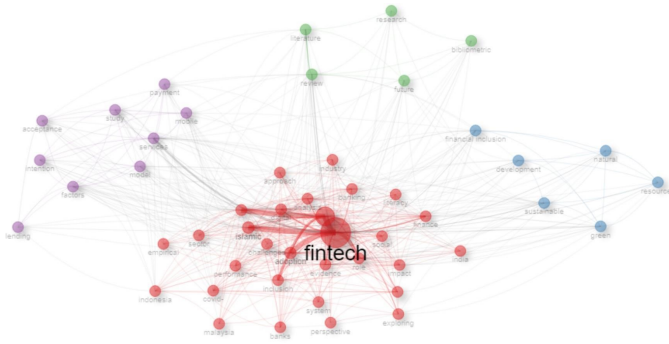

Fig. 7. Thematic Evolution

Fig. 8. Network of Keywords Based on Co-occurrence Method (2018 -2024)

V. CONCLUSION

This study summaries the systematic literature review and Bibliometrics findings as follows:

According to a report by the Department of Statistics and Bank Negara Malaysia, the digital economy made approximately 20% of the GDP in 2020, an increase from 19.1% or RM289 billion in 2019. According to the 2019 Network Readiness Index published by the World Economic Forum, Malaysia achieved a high ranking among the 139 nations assessed. It also secured the top position among rising and developing Asian economies. Malaysia has had significant development over the last ten years and is now emerging as a prominent player in the FinTech industry, offering favorable conditions for financial services businesses to achieve a competitive edge [13] [14].

Malaysia has seen tremendous economic expansion over

the last fifty years and significant social and natural landscape changes. Malaysia, a developing nation, is transforming to achieve sustainable growth and development to realize Vision 2020 and become a high-income country. Over the 11th Malaysia Plan, a 6% yearly increase in the GDP is the goal. However, inputs other than labor and capital will also be needed to achieve the desired annual growth rate. There is no question that technological innovation is the best answer; governments, practitioners, and scholars alike agree. A nation's ability to achieve competitive advantage and sustained economic development largely depends on its technical innovation [15] [16].

The evaluation process of all academic publications that have been released up to this point on the subject of FinTech and financial inclusion in Malaysia has been started by this research. Using certain bibliometric variables retrieved from the Scopus database, the study presents the trend of the earlier research. 435 papers were used for the bibliometric analysis taken from the Scopus database. According to the findings, FinTech and financial inclusion in Malaysia have gained traction since 2018 and will significantly increase by 2024. To use the R-Studio, this study found that scientific production reports as follows:

This study found that **Rabbani MR** is the best author according to the h-index (7), g-index (8), m-index (1.4), total citations (TC-321), net production (NP-8), and publication beginning year (PY-Start-2020). **Resources Policy** is the top journal with 23 articles, and then the **University of Bahrain** is the best institution with 24 productions.

FinTech is a relatively new term that has gained popularity recently. Previous research may have concentrated on financial technology. We conducted the study within a specific time frame. This temporary limitation may exclude recent developments and emerging trends in the rapidly evolving fintech landscape, potentially affecting the comprehensiveness of the analysis. Despite these limitations, this study provides a comprehensive overview of the current global trend in FinTech research.

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