



A Systematic Literature Review on Trends in Financial Behavior Research among the Indonesian Millennial Generation

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Abstract. Increasing effective financial behavior is the main goal that must be achieved for the millennial generation in Indonesia. This study aims to investigate important information from various studies discussing the financial behavior of the millennial generation in Indonesia. This study uses a systematic literature review of the contents of several studies from the Scopus and Google Scholar databases from 2017 to Mid-2023, which highlight the financial behavior of the millennial generation in Indonesia. This study reveals that the type of research most frequently conducted is peer-reviewed articles and is dominated by national-level research. The identified keywords for the millennial young generation in Indonesia still need to be researched because the circle shape looks small on bibliographic mapping. In the last six years, the amount of research on the financial behavior of the millennial generation in Indonesia has increased. Among the dozens of studies, the most favorite research design is quantitative. Apart from that, financial management behavior and investment are the most dominant topic areas as a research focus. In connection with the findings of this study, several recommendations have been put forward for future research that pays attention to financial behavior, especially for the millennial generation in Indonesia, as the main focus. Some of these recommendations include actively increasing the number of international research publications and enriching the variety of research designs with more diverse topic areas.

Keywords: Financial behavior; millennial generation; Indonesia; systematic literature review.

1 Introduction

The transformations in the financial sector worldwide are changing how people behave. The welfare of individuals in the household, community, nation, and world in general can be influenced by the vital role of financial behavior (Mudzingiri et al., 2018). As the second country experiencing the fastest development of financial transformation after China (Davis et al., 2017), Indonesia is trying to adapt to changes in world financial behavior patterns (Dewi et al., 2020). In addition, financial management behavior is starting to receive attention from contemporary researchers (Thi et al., 2015).

Interestingly, changes in the financial behavior patterns of the millennial generation are the most significant issue when making financial decisions (Kim et al., 2019). Plus, the increasing number of financial technology products will change the behavior of millennial individuals and companies in their financial activities (Ding et al., 2022). So, someone who does not intentionally make the wrong financial decision will experience regret (Chavali et al., 2021).

Fintech Lending Indonesia Statistical Data for 2023 reveals that the group that experiences the worst credit in online loan products is individuals aged from 19 to 34 years (OJK, 2023). That was triggered by the ease of accessing the internet, which was most widely used by residents in the age category above 19 years from 2010 to 2021 (BPS, 2021). The millennial generation was identified as the age range between the early twenties and late thirties (Rey-Ares et al., 2021). Brügger et al. (2017) stated that people often experience financial difficulties, young adults aged between 18 and 29 years, while those most vulnerable to financial threats are young adults aged between 20 and 30 years. So, the challenge is the

weak implementation of financial behavior measurement indicators in budgeting, saving, setting financial goals, paying bills on time, considering several alternatives when making financial decisions, and investing in financial markets (Chavali et al., 2021). People prefer to play it safe in conditions of uncertainty, which may reflect on their financial behavior when facing financial risks (Lestari, 2021).

There are many reasons why it is necessary to improve financial behavior skills. Nowadays, many people cannot escape budgeting, spending, borrowing, saving, investing, and risk management outside and inside formal financial institutions (Birkenmaier & Fu, 2020). When faced with financial activities, financial behavior is an essential competency to master to make decisions (Tang, 2021).

Then, if people become accustomed to effective financial behavior, wrong financial decisions can be prevented (Hala et al., 2020). A person with good financial behavior will manage his money responsibly by sticking to a budget, spending money wisely, saving money, keeping expenses under control, making investments, and making timely debt payments (Asyik et al., 2022). Poor financial behavior when managing personal money has a significant, detrimental, and negative impact on a person's life at home and work (Parcia & Estimo, 2017).

Furthermore, analysis of cross-country financial behavior should be considered when assessing the implications of financial decision-making (Khalisharani et al., 2022). A study of financial behavior in Turkey shows that individuals who are financially literate and receive teaching from their parents are more likely to have positive financial behavior (Akben-Selcuk, 2015). A person's healthy financial behavior is predicted by their parents' healthy financial behavior and financial monitoring of spending habits in Romania (Damian et al., 2020). Meanwhile, students' financial behavior is encouraged by financial education and literacy programs in Dutch schools (Kalwij et al., 2019). People in New Zealand with finance and economics education have higher financial literacy and confidence in managing their finances (Ameer & Khan, 2020). In the Southeast Asia region, some Vietnamese women are more likely to manage finances than men (Nguyen & Doan, 2020), as are some households in Malaysia where men have stronger financial vulnerabilities than women due to the negative impact of financial behavior (Sabri et al., 2021). In Indonesia, most financial management behavior is influenced by financial exposure from social media, financial attitudes, and peer influence (Yanto et al., 2021).

Socialization of family finances is also an essential driver of financial behavior and other drivers of financial behavior, including income, work experience, field of study, and discussing money with friends (Johan et al., 2021). In addition, behavioral finance increases investment intentions among students through financial management classes (Widagdo & Roz, 2022). Surprisingly, risk tolerance significantly influences financial behavior, whether as a risk taker or risk averse, when making financial decisions (Patrisia et al., 2023). In addition, a two-year financial life skills training program for poor and vulnerable youth resulted in significant improvements in responsible financial behavior in six out of nine areas, including budgeting, savings, and timely bill payments (Grimes et al., 2022). So, improved support, attitudes, financial skills, and other things will significantly impact financial behavior (Dewi et al., 2020a).

Nonetheless, among all these previous studies, there has yet to be a single study that has tried systematically to review and compile the information reported by all of these studies, including focusing on the millennial generation in Indonesia. At the same time, Rey-Ares et al. (2021) predict millennials will probably be observed and analyzed the most in history. Therefore, this study will use a systematic literature review analysis of several previous studies from 2017 to mid-2023, which used Indonesia's millennial generation as research subjects. This research aims to compile information about various studies discussing Indonesia's millennial generation's financial behavior. In detail, this research is intended to answer the following questions: (1) What is the trend in the amount of research regarding Indonesia's millennial generation's financial behavior from year to year? (2) What are the variations in research designs conducted to analyze Indonesia's millennial generation's financial behavior? (3) What are the most discussed topic areas in financial behavior studies for millennials in Indonesia?

2 Literature Review

2.1 Financial behavior

The theory of planned behavior (TPB) is a development of Ajzen (1991). This theory is often

used to explain human social behavior (Ajzen, 2011) and is often used as a basis theory for explanation in financial behavior research. In the financial realm, people are encouraged to have good financial behavior. The emergence of behavioral finance began in 1990 as a demand to pay attention to aspects of human behavior in making financial decisions as part of business development demands (Asyik et al., 2022). However, several previous studies have variations in the definition of financial behavior.

Joo & Grable (2004) relate behavior to the topic of finance, in which a person's attitude and behavior in the field of finance is referred to as financial behavior. One of the fundamental ideas in financial discipline is financial management behavior, particularly with regard to efficient fund management (Thi et al., 2015). According to Hasibuan et al. (2018), financial behavior is also described as how effectively a household or individual manages its financial resources. This includes creating budgets for investments, insurance, and savings. In addition, financial behavior can be defined as human behavior related to money management (Gutter & Copur, 2011). However, financial behavior is put forward in a different perspective, which states that individuals tend to be less rational and sometimes behave emotionally in financial decisions (Lestari, 2021).

So, the outline that can be drawn from the various studies above is that financial behavior is a combined concept between behavior and finance in which a person or family carries out financial arrangements through making financial decisions, starting from planning and spending to future goals based on their subjective conditions. Therefore, the concept of financial behavior is fundamental to be discussed further because it is an interesting concept that originates from two essential areas, namely finance and psychology, and will continue to develop. Forming positive financial behavior and changing inappropriate behavior requires the role of financial education in identifying the characteristics of financial programs (Dewi et al., 2020a). Strömbäck et al. (2017) revealed that someone good at self-control will also have good financial behavior, which can improve financial well-being.

2.2 Millennial Generation

Currently, in the world, the generation that dominates the population of productive age is Generation Y/millennials; therefore, it is fascinating to conduct studies on how this generation behaves regarding finances (Dewi et al., 2020a). Several previous studies have discussed the birth year range of this generation, but the results of determining the birth year range varied. According to most definitions in circulation, the millennial generation was born between 1980 and 2000 (Cavagnaro et al., 2018). Chie Tie and Nizam (2015) mention that one of the largest populations worldwide comes from the millennial generation, namely a group of people born between 1977 and 1998.

Meanwhile, according to Elam et al. (2007) and Ng et al. (2010), individuals born after 1980 or, more precisely, between 1982 and 2002 are referred to as the millennial generation. In marketing, millennial consumers are considered young adults born between 1981 and 1996 (Kong et al., 2020). In other words, being a millennial is currently 18 - 35 years old (Galati et al., 2019). Millennials range between the early twenties and late thirties (Kim et al., 2019). Based on various previous studies, the birth year range of the millennial generation is similar; there are only shifts in a few years.

The characteristics of the millennial generation have their style at that time. They are known as individuals who actively use Information Communication Technology (ICT). (Xiang et al., 2015). However, the millennial generation dramatically depends on technology (Thusi & Maduku, 2020). Regarding digital literacy, the millennial generation is more technologically savvy because they are highly educated than the previous generation (Dash et al., 2021). The millennial generation is known as a group of creative and risk-taking individuals, but the problem is that they are known as a group that tends to be consumptive (Dewi et al., 2020b).

The consumerist characteristics inherent in the millennial generation result in them experiencing complex financial management problems such as purchasing and spending online and other financial services (Normawati et al., 2021). So far, the level of entrepreneurial activity shown by the millennial generation is relatively lower than previous generations due to financial independence and limited work experience (Liu et al., 2019). In addition, the millennial generation is known for being technologically savvy but wants quick success, gives up quickly, and looks for instant gratification (Wolor et al., 2020). It is necessary to equip the millennial generation with financial knowledge and digital financial literacy because they are currently in a vulnerable financial position, they will bear more significant financial risks in the future (Normawati et al., 2021).

Because the millennial generation is a relatively large population in many countries, the subject of them is interesting to analyze (V. Dewi et al., 2020b). For example, several previous studies have examined the millennial generation as research subjects, such as digital financial literacy (Amalda, 2022; Rahayu et al., 2022; Setiawan et al., 2022) and financial behavior (Dewi et al., 2020b; Kim et al., 2019; Normawati & Rahayu, 2022; Rey-Ares et al., 2021), marketing (Dash et al., 2021; Kong et al., 2020), tourism (Cavagnaro et al., 2018), banking sector and capital markets (Gaol et al., 2023; Thusi & Maduku, 2020), and as a new generation (Elam et al., 2007; Liu et al., 2019; Ng et al., 2010). In the future, the millennial generation may be the most observed and analyzed generation group in history (Rey-Ares et al., 2021).

3 Methodology

This study conducts a systematic literature review to collect information on various studies that address the financial behavior of the millennial generation in Indonesia. Systematic literature review is one of the methods by following scientific protocols and in-depth analysis, which has become popular in the last decade. A systematic literature review is "a systematic, explicit, comprehensive, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners" (Okoli, 2015).

By summarizing, analyzing, and synthesizing the literature on a particular topic, it is possible to grasp the breadth and depth of already published articles, discover any gaps that might be explored, test hypotheses, and create new theories in a literature review (Xiao & Watson, 2019). In order to answer the research questions mentioned in the introduction section, this study follows the systematic literature review procedure recommended by Xiao & Watson (2019) through eight steps: (1) formulating the research problem; (2) developing and validating review protocols; (3) literature search; (4) screening for inclusion; (5) assessing quality; (6) data mining; (7) analyzing and synthesizing data; and (8) report findings.

First, formulate the research problem. This study raises the problems faced by the millennial generation when utilizing digital financial services. Even though they are skilled at operating technology, including accessing financial technology services, they often have difficulty managing their finances. Moreover, the millennial generation tends to have a rather consumerist character, wanting to succeed quickly, giving up easily, not considering potential risks, and lacking financial literacy. Some of these conditions cause the millennial generation's inability to make decisions when managing finances independently.

Second, develop and validate a review protocol. Based on the previous studies above, this study proposes research questions (RQ) based on the selected topic, including: (RQ1) What is the trend in the number of research on behavior finances for the millennial generation in Indonesia from year to year? (RQ2) What are the variations in research designs carried out to analyze the financial behavior of the millennial generation in Indonesia? (RQ3) What topic areas are most discussed in behavioral financial studies for the millennial generation in Indonesia?

Third, Literature search. The data source for this research collects studies from the Scopus and Google Scholar databases using Publish or Perish software. The series (string) used to search either in the title or keywords are detailed in Table 1.

Table 1. Database Studies

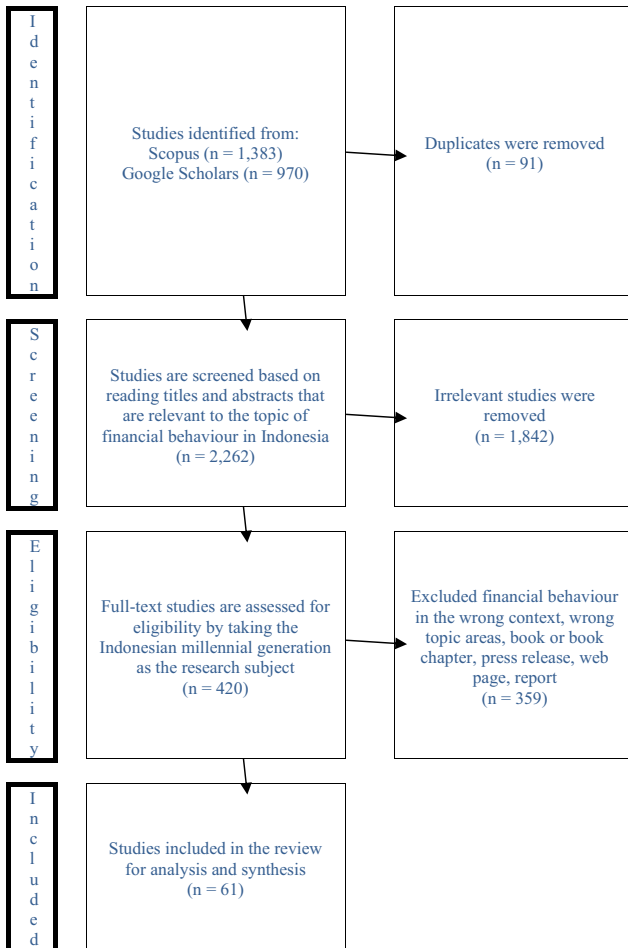
Keywords Strings	Scopus	Google Scholar
"financial behavior"	1,311	-
"financial behavior" AND "Indonesia"	53	-
"financial behavior" AND "millennials"	14	-
"financial behavior" AND "millennial" AND "Indonesia"	5	970
Total Studies	1,383	970

The use of the quotation mark symbol ("...") in the first keyword, the second keyword, and the third keyword are intended to provide study search commands that only contain words in quotation marks in their entirety without being separated so that they function as a filter in another keyword search. Besides that, using AND will give commands to find studies that contain all three or all of these keywords in the same study. For the record, this research conducted a study search with an initial limit of 2017, and the search covered until mid-2023.

Fourth, screening for inclusion criteria. Furthermore, this study used the PRISMA 9

mechanism to screen study eligibility according to the inclusion criteria (IC). PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) is a new reporting guideline that reflects methods for identifying, selecting, appraising, and synthesizing studies or literature (Page et al., 2021). The study database in Table 1 yielded a total of 2,353 initial studies.

After removing 91 duplicate studies, from 2353 to 2262, we determined 6 searches based on four inclusion criteria. First (IC1), studies are allowed to use Indonesian and English. Second (IC2), studies must involve financial behavior variables in their studies, either as antecedent, independent, dependent, consequence, or other variables. Third (IC3), the study focuses on the context of the millennial generation in Indonesia, both individuals and groups. Fourth (IC4), studies can be in the form of peer-reviewed journals and conference papers, but working papers, theses, books, book series, and chapters in books are not included. After the four ICs were matched to all 2,353 studies, the results of the selected studies per the four inclusion criteria were 61 primary studies. Data collection and study screening are summarized in the PRISMA mechanism, as shown in Figure 1.



Source: Developed by Author Using PRISMA (2023)

Fig. 1. Data collection and study screening

Fifth, assessing quality. Based on the inclusion criteria screening, a quality assessment (QA) is required to answer the research questions (RQ) by evaluating 61 main

studies through questions. First (QA1), what year was the study made? Second (QA2), What research design was used in the study? Third (RQ3), what topic areas were discussed in the study? The results will be extracted after these three QAs are asked of all 61 studies. If all three QA questions can be answered thoroughly, a result will be given as a checkmark symbol (✓). On the other hand, if the three QA questions are not answered thoroughly, a result will be given as an x mark (X), and the study will not be included in the discussion.

Sixth, data extraction. Seventh, analyzing and synthesizing data. Eighth, report findings. Ultimately, 61 primary studies undergoing a quality review had their data collected to gather information that would help answer research questions (RQ). Evaluations of the quality of the study can influence the interpretation of synthesis findings and the definition of the conclusions conveyed. Data synthesis seeks to compile proof from specific investigations to address research issues. The authors' disclosures in the abstract, methods, and discussion sections are considered when making judgments. The gathered data is also displayed in various visualizations, including tables and graphs.

4 Results and Discussion

4.1 Study search result

The distribution of study types shows how much variation in research was conducted within a certain period. As shown in Table 2, peer-reviewed articles are the type of research most frequently conducted at 84% than proceedings, while national-level research is the most common scope. However, still referring to Table 2, these two types of studies show a pattern of continued research increase until Mid-2023. Apart from that, one of the crucial points in the distribution of this study is that it deliberately does not present types of studies in the form of working papers, theses, book series, and book chapters because this research wants to prioritize scientific quality in the results of research on the concept of financial behavior of the millennial generation in Indonesia which has been studied thoroughly. Good. Even though the amount of research into the financial behavior of the millennial generation in Indonesia at the international level is still less than at the national level, there are opportunities for other researchers to fill the research gap in subsequent studies.

Table 2. Study Distribution

Type of Study	Published Year					Total	%	
	2017	2019	2020	2021	2022			Mid-2023
Conference Proceedings				5	4	1	10	16
International				4	4	1	9	
National				1			1	
Peer-Reviewed Articles	1	3	5	14	12	16	51	84
International	1	1	4	4	6	8	24	
National		2	1	10	6	8	27	
Total	1	3	5	19	16	17	61	100

After distributing the study, bibliographic mapping was done to see the co-occurrence of the keywords used using the VOS viewer application, as seen in Figure 2. This research displays a network visualization of the application, which explains that small circles indicate topics that have yet to be widely discussed and can be an idea for further research. This study determined a minimum of three keywords for each cluster to further narrow the investigation. The keywords that appear the most are financial literacy, fintech, digital finance, financial well-being, financial knowledge, and financial behavior. Based on the grouping, the financial behavior node dominates the blue cluster, with most keywords related to financial literacy, financial well-being, financial inclusion, and financial knowledge.

Interestingly, the keywords financial behavior was found to be related to the keyword's millennial generation, millennials, and Indonesia; the keywords with the shape of each circle are pretty small. However, the young millennial generation in Indonesia is a subject that has yet to be studied much on the topic of financial behavior. Thus, opportunities are created in the form of research ideas to cover research gaps that other researchers can carry out by developing their ideas on financial behavior for the millennial generation in Indonesia.

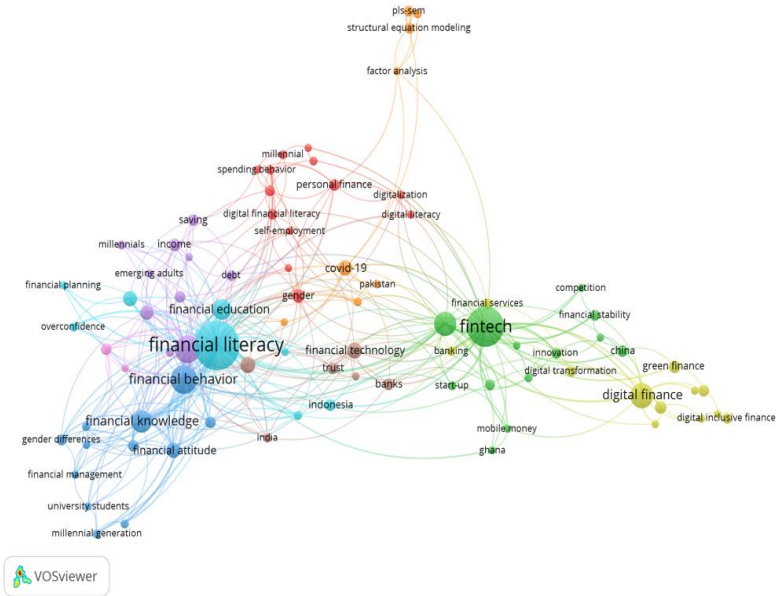


Fig. 2. Bibliographic mapping by the co-occurrence of keywords

4.2 Result from asses quality

Quality assessment (QA) results describe how well the selected studies answer the research question (RQ). A total of 61 selected studies in Table 1 that matched the inclusion criteria at the screening stage were evaluated through three QA questions. Referring to the data in Table 3, the first question (QA1) contains the publication period from 2017 to 2023. The second question (QA2) produces two variations of research design, including Qualitative and Quantitative. The third question (QA3) generates six topic areas: Financial Literacy, Personal Finance, Investment, Financial Management Behavior, Financial Well-Being, and Financial Technology. In conclusion, all QA questions were successfully answered in full by the 61 selected studies, so the results were given in the form of a check mark symbol (✓) because they had complete information needed to answer all research questions. Therefore, these 61 studies passed the quality test and continued to the analysis and synthesis of findings stage.

Table 3. Quality Assessment Results

Studies and QA1 (Published Year)	QA2 (Research Design)	QA3 (Topic Areas)	Results
(V. Dewi et al., 2020a; Indratiirta et al., 2023; Khalisharani et al., 2022; Mulyana et al., 2019; Pangestu & Karnadi, 2020; Patrisia et al., 2023; Rahayu et al., 2022b; Respati et al., 2023; Susan & Djajadikerta, 2017; Yanto et al., 2021)	Quantitative	Financial Literacy	ü
(Adiandari & Okvitawanli, 2023)	Qualitative		ü

Studies and QA1 (Published Year)	QA2 (Research Design)	QA3 (Topic Areas)	Results
(Aishuia et al., 2020; Amaniyah & Purnamawati, 2023; Asandimitra et al., 2023; Barokah et al., 2023; Faramitha et al., 2021; Fatmawati & Lutfi, 2021; Grimes et al., 2022; Irmalis & Damrus, 2022; Lestari, 2021; Listiyani et al., 2021; Lukesi et al., 2021; Ningtyas & Wafiroh, 2021; Nurfadillah & Matoati, 2021; Odila & Setiyono, 2023; Pamela, 2022; Patricia & Nuringsih, 2021; Putri & Tasman, 2019; Radianto et al., 2021; Ramadhan & Asandimitra, 2019; Renata W & Saputra, 2021; Rendrawati et al., 2023; Sufyati HS & Alvi Lestari, 2022; Susanti, 2021; Tasha Gunadi & Ruhana Dara , 2022; Theresia Sinaga et al., 2023; Yudha & Martanti, 2022; Zulvia et al., 2022)	Quantitative	Financial Management Behavior	ü
(Safira & Rahadi, 2020)	Qualitative		ü
(Firlianti et al., 2023; Meiryani et al., 2022)	Quantitative	Financial Technology	ü
-	Qualitative		ü
(Ayu et al., 2023; Devi et al., 2021; Maidani et al., 2023)	Quantitative	Financial Well-Being	ü
-	Qualitative		ü
(Chairunnisa & Dalimunthe, 2021; Hani et al., 2021; Karmila et al., 2022; Pradana et al., 2021; Rahmah & Disman, 2022; Ramadani et al., 2023; Rozak & Amalia, 2023; Sari, 2021 ; Syahfi, 2023; Tamara et al., 2022; Usriyono & Wahyudi, 2023; Widagdo & Roz, 2022)	Quantitative	Investment	ü
(Dewantari & Sinarwati, 2022)	Qualitative		ü
(Firli & Dalilah, 2021; Johan et al., 2021; Kartawinata et al., 2021)	Quantitative	Personal Finance	ü
(Maharani, 2020)	Qualitative		ü

Source: Developed by Author (2023)

4.3 Analyze and synthesize data and report the findings

Research Amount

RQ1: What is the trend in the number of research on financial behavior for the millennial generation in Indonesia from year to year? The amount of research shows how active research is carried out in a certain period. Based on the graph shown in Figure 3, studies reviewing Indonesia's millennial generation's financial behavior can be found since 2017. There has been a pattern of increasing research from year to year; in particular, the number of research since 2021 has increased by 19 studies compared to previous years. Apart from that, the number of research in Mid-2023 has reached 17, which will most likely continue to increase until the end of 2023 and be higher than in 2022. The immense potential increase in the number of research on Indonesia's millennial generation's financial behavior shows that there is a significant increase. Many researchers are actively investigating the urgency of financial behavior, especially for Indonesia's millennial generation.

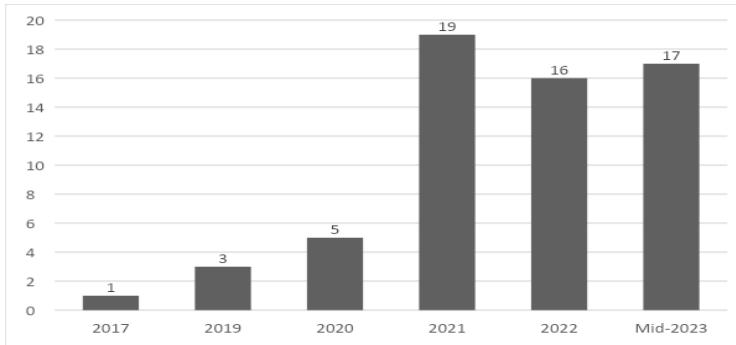


Fig. 3. Trends in the number of millennial generation financial behaviour research in Indonesia

Most research is inspired by researchers' awareness of common problems in their immediate environment. One of the most common problems currently occurring is that the behavior of the millennial generation in Indonesia regarding the various complexities of financial services still needs to be higher. Therefore, conducting research is the best strategy to solve this problem. By conducting research, researchers can determine the most effective formula that might encourage improved financial behavior for the millennial generation in Indonesia.

The more research that examines financial behavior, the more beneficial the impact will be on Indonesia's financial literacy and financial inclusion improvement programs. The decisive reason behind this is a research idea that there are substantial implications for regulators because high behavior in managing money and financial literacy will be closely related to risk prevention of financial services and the national financial system (Madeira & Margaretic, 2022). In addition, financial behavior research will have an impact on financial service practices for several reasons, including the following:

1. The findings are reliable information that financial service actors can use.
2. The findings can also serve as a fundamental basis for financial decision-makers at the national, local, or institutional levels.
3. The findings can change how financial players, including the Indonesian millennial generation, think more efficiently.

Research design

RQ2. What are the variations in research designs carried out to analyze the financial behavior of the millennial generation in Indonesia? The focus of a study is determined by the type and design of the research. According to Table 4, quantitative research is the most popular research design for testing millennial generation digital financial literacy in Indonesia, with a sizable proportion of 93%. This outcome aligns with past behavioral financial research; quantitative research designs are more attractive to researchers than qualitative research designs (Campanella et al., 2023; Hornuf et al., 2023; Hornuf et al., 2021; Zyphur & Pierides, 2020). Quantitative effects have economic implications, including in the financial sector (Cornelli et al., 2023). Meanwhile, over the last 30 years, qualitative research volume has remained stable (Witell et al., 2020). However, it has recently been observed that the popularity of qualitative design is rising (Javadian et al., 2020). Such a situation is closely related to the benefits of using a qualitative approach to define a phenomenon thoroughly and in-depth. Therefore, the limited qualitative research has provided opportunities for other researchers to adopt a qualitative design and focus their studies on the financial behavior of the millennial generation in Indonesia.

Table 4. Research design grouping

Research Design	Published Year						Total	Percentage
	2017	2019	2020	2021	2022	Mid-2023		
Qualitative			2		1	1	4	7%

Quantitative	1	3	3	19	15	16	57	93%
Total	1	3	5	19	16	17	61	100%

In reality, there are still several other types of research designs, such as experimental, which researchers quite often choose. Based on Table 4, experimental research on Indonesia's millennial generation's financial behavior has never been conducted. In experimental design, several advantages are offered to researchers, such as minimizing the risk if variables are not correlated, reducing bias in research results, and controlling threats related to validity before and after testing. Currently, the use of experimental techniques has increased and is starting to be widely used by various researchers (Lonati et al., 2018; Martin, 2019). The field's success in proving the applicability of concepts from the laboratory to real-world workplace settings is due primarily to this methodology (Erath et al., 2021). Future researchers can utilize this potential to implement experimental research when studying Indonesia's millennial generation's financial behavior because this experimental research has several branches, including pre, true, quasi, and factorial experimental. There are many other research designs, such as observational, correlational, survey, and ex post facto designs. Therefore, the information produced and disseminated in this research can enrich the variety of future research regarding Indonesia's millennial generation's financial behavior to produce new, applicable, innovative findings.

Topic Areas

RQ3. What are the most discussed topic areas in behavioral financial studies for Indonesia's millennial generation? One of the scientific courses with various topics is economics, including finance. Based on Table 5, the researchers chose several topics summarized in Table 2 to test their research on Indonesia's millennial generation's financial behavior. In particular, financial management behavior and investment are the topics most frequently chosen for research, with 28 studies and 13 studies, respectively. There is a reason why the topic of financial management behavior is a favorite to study: because welfare individuals in households, communities, countries, and even the world in general can be significantly influenced by financial management behavior (Mudzingiri et al., 2018). Another reason is that increasing investment intensity will quickly change the capital markets industry globally and encourage effective economic growth and development, so technological transformation is considered capable of creating financial system stability (Banna et al., 2022). However, almost all of the topic areas presented in Table 5 are no less important because they have become research targets for researchers in Mid-2023.

Table 5. Grouping topic areas

Topic Areas	Published Year						Total	%
	2017	2019	2020	2021	2022	Mid-2023		
Financial Literacy	1	1	2	1	2	4	11	18
Personal Finance			1	3			4	7
Investment				4	6	3	13	21
Financial Management Behaviour		2	2	10	7	7	28	46
Financial Well-Being				1		2	3	5
Financial Technology					1	1	2	3
Total	1	3	5	19	16	17	61	100

Furthermore, several other topics are also studied by researchers as the primary research concerns, as presented in Table 5. The discussion of the topic of financial well-being is similar because the urgency of the research is about the survival of individuals and households in meeting their living needs by trying to have enough money in banks and savings without having to borrow and without worrying about a lack of money in the future (Carton et al., 2022). Research discussions on personal finance also closely intersect with the concept of financial behavior because having healthy financial behavior regarding spending money and investing or saving will maintain a stable individual financial situation (Damian et al., 2020).

Meanwhile, financial literacy is always an essential discussion when talking about the use of financial services (Kawamura et al., 2021) because this intersects with the area of financial technology, which requires knowledge of various digital financial innovations that

seem to be endless (Daud et al., 2022). Along with the development of financial technology, there will be more and more research involving financial behavior. This picture shows that Indonesian researchers have a greater opportunity to produce solutions that enable Indonesia's millennial generation to develop their financial behavior and problem-solving skills in their personal financial conditions in the future.

5 Conclusion

In this research, we have reviewed studies that highlight Indonesia's millennial generation's financial behavior from the Scopus and Google Scholar databases from 2017 to Mid-2023. Peer-reviewed articles are the most frequently conducted type of research and are dominated by national-scale research. In bibliographic mapping, keywords for the millennial young generation in Indonesia appear as tiny dots, indicating that they still need to be researched.

Furthermore, a trend has been found in increasing the research regarding Indonesia's millennial generation's financial behavior in the last six years. Among the dozens of researches, quantitative research is the most favorite research design used. Apart from that, the topic of financial management behavior and investment is the area that is most often the research focus.

5.1 Research implications

With this research, business people working in the fintech sector will be able to see the movements of great interest to the millennial generation in the fintech sector. Likewise, the millennial generation can learn lessons from fintech's positive and negative sides.

5.2 Limitations of research and suggestions

Based on the findings, several recommendations have been made for further research. First, it is necessary to increase the number of international standard research publications that focus on discussing financial behavior, especially for Indonesia's millennial generation. Second, actively increase research that examines financial behavior to change the financial management patterns of the millennial generation and support programs to increase financial literacy and financial inclusion in Indonesia. Third, researchers must enrich the variety of types of research to deepen the analysis, which produces many new recommendations that are innovative and applicable to Indonesia's millennial generation's financial behavior. Lastly, researchers should continue investigating various new topic areas that can develop Indonesia's millennial generation's financial behavior and problem-solving skills in their financial situations.

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