

Sentiment Analysis on Sharia Credit Card using Senti-Strength

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This research was conducted to determine sentiment towards the law and the application of sharia cards issued within a period of 52 years (1970-2022). The technique involves secondary data from the metadata of 98 published publications that are in Dimensions, along with descriptive statistical analysis, meta-analysis, and sentiment analysis, then processed using Microsoft Excel 2019 and SentiStrength software. The results indicate that sharia cards have been the subject of more inquiry in the scientific literature each year. The results of the sentiment analysis show that there is a tendency for positive perceptions towards negative perceptions in the scientific literature about the existence and law of sharia cards, with a positive sentiment of 34.30% and a negative sentiment of 16.66%. However, neutral perceptions still dominate at 41.16%. The rest displayed a significant amount of positive and negative sentiment, each at 1.96%. The benefit of this research is to provide literature for the examination of sharia card law and its application while taking into account community perceptions to reduce unfavorable opinions and its flaws. By doing this, it is expected that sharia card products can attract more public interest and trust so that they can compete with conventional banking products.

Keywords: Sentiment Analysis; Sharia Card; SentiStrength; Meta-analysis.

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1.1.

INTRODUCTION

The development of payment transactions that occur in society in modern times is very much, as well as in modern business also cannot be separated from technological developments. One of the uses of this technology is a credit card (Jamilah & Aulia, 2022)(Zein et al., 2021)(Malihatunnisa, 2020).

Credit cards are one of the most common payment methods in modern society. Credit cards are used as an alternative to cash to make purchases of goods and services. This credit card is typically used for shopping at department stores and malls in urban areas. Because individuals view credit cards as a useful, handy, and secure method of payment, the use of credit cards has grown quickly in recent years (Hardiansyah, 2021). However, what is the basic law of Islamic credit cards in the Al-Qur'an, Hadith, and also Ijma'?

There are two types of banking systems in Indonesia: traditional banks and Islamic banks. The Islamic finance sector is now expanding and keeps coming up with novel ideas to draw clients. With this invention, Indonesian Islamic banking funding is more practical and effective. A sharia credit card is one of the new products offered (Rakhmad & Meylianingrum, 2022), its function is no different from a conventional credit card. What distinguishes it is that conventional credit cards use an interest system as a form of taking advantage of repaying bills in installments, while sharia cards are based on the principles of kafalah, qardh, and ijarah. According to the National Sharia Council's Fatwa No. 54/DSN-MUI/X/2006 regarding the Sharia Card (Iskandar, 2021).

In Indonesia, Islamic banking and financial institutions are growing more and more each year. This advancement serves as a barometer for the performance

of the Islamic economy (Ghozali et al., 2022). According to Batubara et al., (2022), Islamic credit card usage has fluctuated over time due to a number of factors. Some of the effective and significant factors influencing interest in using an Islamic credit card are trust, attitude, and income. Study of Rakhmad & Meylianingrum, (2022) show that contracts, fines, fees, and services all have a positive effect on customer preferences in choosing Sharia Card products. The study's findings by Jamilah & Aulia, (2022) demonstrate that knowledge, beliefs, and lifestyle all contribute to the intention to obtain an Islamic credit card in a positive and significant manner.

Despite all the dynamism related to sharia credit cards, it is found that there are still many pros and cons as well as positive and negative perceptions of its existence and law. Therefore, it is important to examine the sentiment value of existing literature publications on sharia cards to become additional literature. This research is also important because it can serve as evaluation material for the existence of sharia cards and legal explanations related to the systematic contracts contained therein based on the perspective sharia. Additionally, by understanding what needs to be corrected from negative perceptions and the shortcomings of the sharia card itself, this research is also considered important. In the future, sharia cards are also expected to be able to enhance the standard of the system while maintaining sharia principles, reducing risks and bad impressions of sharia cards. This overall backdrop forces the author to do a sentiment analysis of the 98 articles about the sharia card published in Dimensions throughout the preceding 52 years, from 1970 to 2022.

LITERATURE REVIEW

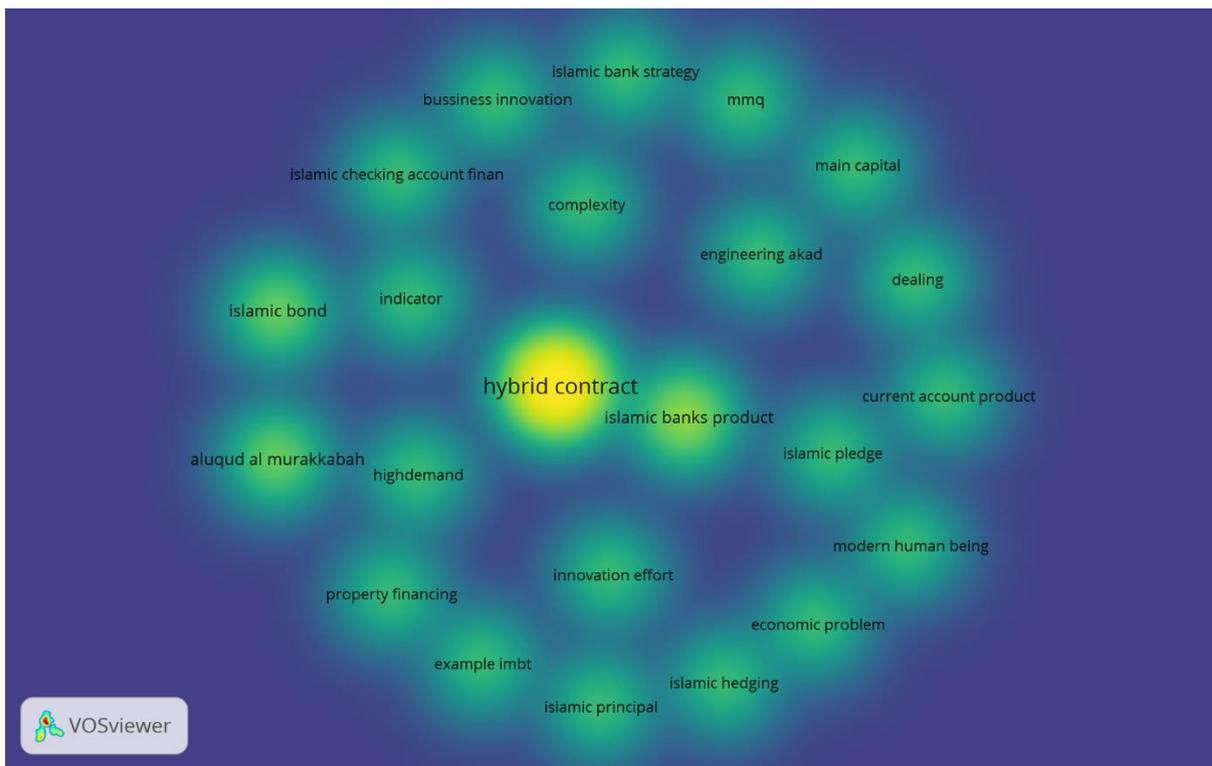


Figure 1: Visualization of density keywords on syariah card

The image above is a form of visualization of the density of various keywords related to sharia cards that were mentioned in 98 articles in Dimensions. From the picture it can be seen together that there are 32 keyword items related to sharia cards; *bussiness innovation, complexity, current account product, dealing, economic problem, engineering akad, example imbt, highdemand, hybrid contract, indicator, innovation effort, Islamic bank strategy, Islamic banks product, Islamic checking account, Islamic hedging, Islamic pledge, Islamic principal, main capital, mmq, modern human being, property financing, al uqud al murakkabah, Islamic bond*. The circle in the preceding graphic, which is brighter and wider, denotes how frequently these keywords are utilized in the research's target articles. Together, we can see that the circle containing the word "hybrid contract" is the brightest and largest. This indicates that the terms most frequently used in articles concerning sharia cards are hybrid contracts.

A hybrid contract is an agreement between two parties to carry out a transaction that combines two or more contracts so that all of its legal ramifications and all of its rights and duties are viewed as constituting a single, unbreakable entity. In order to create new product innovations that are legal, have high selling values, and are able to compete in the market, but with due observance of the provisions and principles of shari'ah, hybrid contracts are widely used in Islamic

banking products. With this, it is expected that Islamic banks can compete with conventional banks and stay up to date (Anggitia, 2020).

Sharia card is an example of a financing product that is using a hybrid contract. In its implementation, sharia cards use several contracts such as the Ijarah contract where the cardholder will be charged a membership fee, the Kafalah contract where the card issuer can receive a fee (ujrah kafalah), and the Qard contract where the cardholder is obliged to return the amount of funds withdrawn at time (Zein et al., 2021). According to Kartini & Hanurat, (2017) ssharia card agreement contract comprises multiple stages, including Al-Ariyah (credit agreement), Al-Wakalah (authorization agreement), and Al-Kafalah (guaranteed agreement).

The results of the study Malihatunnisa, (2020) demonstrate that sharia cards are within the scope of maqāṣid al-syariah; specifically al-hajjiyah, which favors the initiator and makes things tough for them if they don't have it or don't use it. However, this also enables common people to enter the purview of tahsiniyyah, as they will not encounter any difficulties if they do not possess or utilize a sharia card.

An agreement to create credit cards with a system based on sharia principles was reached since scholars concur that credit cards are prohibited in Islam because

the mechanism incorporates components of usury. Sharia card customers have responsibilities that must be fulfilled, much as credit card users in general. One of them entails paying bills for already-completed transactions. It does not, however, exclude the likelihood that some consumers will be careless in making these payments. One kind of protection provided by the DSN-MUI in dealing with the risk of defaulting consumers is the establishment of a ta'widh mechanism or compensation for parties who violate it. (Elsanti, 2017). Furthermore, according to research findings Faton, (2022) most scholars allow Islamic credit cards. However, there are differences regarding the collection of fees on kafalah contracts and the benefits of administrative costs.

Bank BNI became the first state-owned bank to issue a sharia credit card. The Hasanah Card credit card is one of the products issued by Islamic banks and provides new innovations for the world of Islamic banking in Indonesia. According to the legal aspect, the DSN Fatwa No. 54/DSN-MUI/X/2006 serves as the Hasanah Card's legal edifice. (Abd Haling et al., 2019). Arzani & Isfandayani, (2020) demonstrates that Bank BNI Syariah's broad compliance with the DSN-MUI fatwa No. 54/DSNMUI/X/2006 in carrying out the iB Hasanah Card activities is shown. But on the other side, the result by Savitri et al., (2020) stated that it was discovered that there were still inconsistencies in the way BNI Syariah KC Surabaya applied sharia principles to hasanah cards in practice.

Hasil penelitian (Aryani, 2022) outlined how the card limits, customer acquisition options, and customer usage requirements specified based on Bank Indonesia regulatory decrees affect the fee determination system (ujrah) on sharia cards. Another difference in the provisions is the calculation of the ta'widh fee, which is based on the kind of card and the wait duration rather than the actual loss the bank suffers at the time of invoicing (Arzani & Isfandayani, 2020).

RESEARCH METHODS

This study uses data in the form of research journals and other research publications during the period 1970 to 2022 which have been published regarding the theme of sharia card perception in the Dimensions metadata. The methodology used in this study is a qualitative method approach with descriptive statistics, literature study of 98 published papers related to sharia cards.

The approach used in this study is sentiment analysis or opinion development. Sentiment analysis is a

type of research that is frequently used to gauge public opinion on a subject. In the field of text mining, sentiment analysis is a branch of research that gained popularity in early 2002. Sentiment analysis is a popular research method for gauging public opinion on a subject (Mujahidah & Rusydiana, 2022; Rusydiana & Izza, 2022). Researchers use SentiStrength software which is widely used in sentiment analysis research.

To put it simply, text analysis is intended for word processing rather than number processing. The three primary sub-processes that make up sentiment analysis are subjectivity classification, detection orientation, and opinion & target detection (Medhat et al., 2014). The majority of sentiment analysis research up to this point has focused on English as an international language (Baccianella et al., 2008). In order to determine if the opinions conveyed in documents, sentences, and feature entities have positive, negative, or neutral aspects, text polarity must first be classified at the level of documents, sentences, or features and aspects.

The data is processed in the form of abstracts from each publication piece with the theme of the sharia card in order to estimate the sentiment map on the outcomes of this perspective. The data used is a collection of articles on sharia cards in Metadata Dimensions and was analyzed using Microsoft Excel to measure the development of the number of paper publications on sharia card themes, top authors, and top journals linked to sharia cards. Other studies on Islamic economics and finance using sentiment analysis has been done by researchers, for the example Bashir et al., (2022), Rusydiana (2018), and also Riani et al., (2022).

RESULTS AND DISCUSSION

Meta-Analysis

Figure 2 illustrates the number of published papers on the perception and development of sharia cards. It was found that there were 98 publications that published during the 52-year observation period, from 1970 to 2022. From the bar chart above, it can be seen that there is a distribution of papers that varies each year with a range of 0 to 18 papers. The most widely published paper on the perception and development of the sharia card is in 2022 with an annual number of publications of 18 papers. While the least number of publications was in 1970, 2004, 2008, 2013, 2014 where there was only 1 publication in each of those years. And for years that are not mentioned in the bar chart above, it means that there is not a single number of papers published in those years.

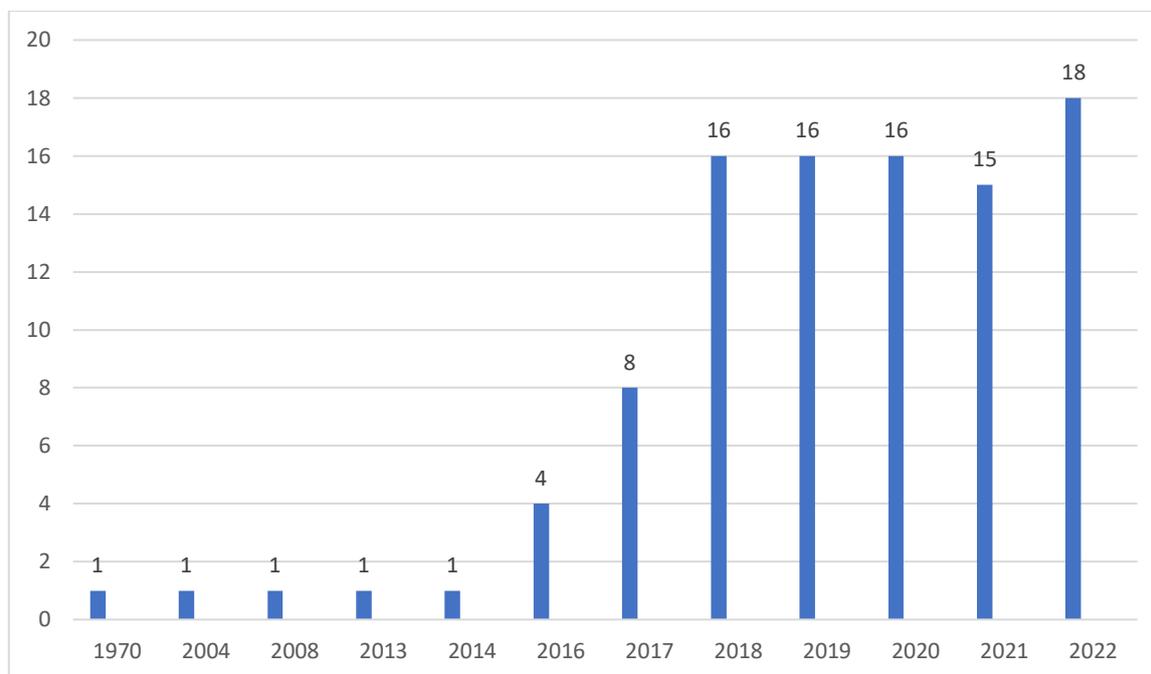


Figure 2: Number of publication papers per year

Based on the graph above, it can be concluded that papers published on the theme of the sharia card tend to increase, even though there was a slight decrease in 2021, but it increased again in 2022. There was a significant increase from 2017 to 2018. But because in 2022 has not been completed by the end of December,

then this data is still temporary and it is still possible to increase the number of publications this year.

Based on the metadata contained in Dimensions, the following table highlights the nine published articles from among the 98 studies that have received the most citations:

Table 1: The most cited article

No	Author	Title	Year	Cites
1	Norazlina Zainul, Fauziah Osman, Siti Hartini Mazlan	E-Commerce from An Islamic Perspective	2004	23
2	Ririn Tri Ratnasari, Ulfa Fadilatul Ula, Raditya Sukmana	Can store image moderate the influence of religiosity level on shopping orientation and customers' behavior in Indonesia?	2020	4
3	Popon Srisusilawati, M. Andri Ibrahim, Randi Ganjar	Komunikasi Pemasaran Syariah Dalam Minat Beli Konsumen	2019	2
4	Nur Wulandari, Syaharuddin Syaharuddin, Sitti Aisyah	Telaah Unsur Syariah Aplikasi iB Hasanah Card	2018	1
5	Dewi Sukma Kristianti	Kartu Kredit Syariah Dan Perilaku Konsumtif Masyarakat	2014	1
6	Dhianwahyuni	Pengaruh Perceived Value Terhadap Behavioral Loyalty melalui Customer Satisfaction Sebagai Variabel Pemeditasi pada Pengguna Credit Card Co-Branding Bank Aceh	2019	1
7	Teguh Suripto	Analisa Penerapan Akad dalam Pariwisata Syariah berdasarkan Fatwa MUI Dewan Syariah Nasional Nomor 108/DSN-MUI/X/2016	2019	1

8	Nurul Fatma Hasan	Hybrid Contract: Konstruksi Akad dalam Produk Perbankan Syariah	2017	1
9	Salmah Hadi Azzubaidi	Strategi Bersaing Divisi Bisnis Kartu Pada PT Bank BNI Syariah	2018	1

The most popular article, "E-Commerce from An Islamic Perspective," was written by [Zainul et al., \(2004\)](#). This article discusses the issue of the legality of E-Commerce in Islam, where if this is proven to be legal and acceptable in Islam then it is possible for the Muslim community to get better benefits from technology that continues to develop. Credit card payments were also covered in order to allay Muslim concerns regarding the potential of Islamic e-commerce.

Every researcher, in general, has a particular tendency. While some are co-authored by other academics, others are listed as being written by a single person. According to the information gathered, from 98 articles, there are 81 authors have contributed to the

publishing of literature on sharia cards. The most prolific authors in terms of quantity are Popon Srisusilawati, Nurul Fatma Hasan, and Savira Nurul Annisa, each of whom has published two articles on sharia cards. Meanwhile, in terms of quality, the authors Ririn Tri Ratnasari and Raditya Sukmana from Airlangga University jointly wrote an article entitled "Can store image moderate the influence of religiosity level on shopping orientation and customers' behavior in Indonesia?" occupy the most productive position with receiving 4 times citations.

The following tables list the journals with the highest citation rates and the number of papers published on sharia cards by Dimensions:

Table 2: Top contributing journal on amount of Citation

No	Journal	TP
1	Jurnal Ilmiah Ekonomi Islam	4
2	WADIAH	2
3	Ecobankers Journal of Econmy and Banking	2

Table 3: Top contributing journal on amount of publication

No	Journal	TP
1	Electronic Commerce Research and Applications	23
2	Journal of Islamic Accounting and Business Research	4
3	JESI (Jurnal Ekonomi Syariah Indonesia)	2

Notes: TP=total number of publications, TC=total citations

A sample of 98 articles spread across 82 journals. Table 2 demonstrates that, with a total of 4 articles published, the 'Islamic Economics Scientific Journal' is the most productive journal in terms of output. The journals 'WADIAH' and 'Ecobankers Journal of Economy and Banking' are then mentioned, each of which had two articles on sharia cards published. While table 3 reveals that the quality-wise most productive journal is "Electronic Commerce Research and Applications," which has received a total of 23 citations. Followed by 'Journal of Islamic Accounting and Business Research' and 'JESI (Indonesian Sharia Economic Journal)', each of which has received four and two citations. Islamic cards are being studied in a variety of multidisciplinary fields, including economics, banking, finance, management, law, and legal studies.

Sentiment Analysis

Furthermore, the authors try to assess the sentiments of journals that have been published on the topic of sharia cards by using papers contained in the Dimensions database. Sentiment analysis is research that is usually used to measure and ascertain public sentiment towards a theme (Mujahidah & Rusydiana, 2022; Rusydiana & Izza, 2022). SentiStrength software is used as a tool to process data in this study. As a secondary data source, a study was conducted on 98 literatures on sharia cards. Sentiment results were obtained from the title and abstract of articles about sharia cards in Dimensions. Then the words in the form of written text are analyzed and the results obtained are classified into 5 types of ratings, namely opinions that are high positive (very good), positive (good), neutral (neutral), negative (bad), and high negative (very bad). These ratings are ordered from high negative (-5) to high positive (5) intervals, with 0 being neutral. The opinion score of

sentences contained in articles related to digital banking is calculated by adding up the sentiment score of each word listed in SentiStrength. The following figure

illustrates the results of sentiment analysis on the perception and development of sharia cards:

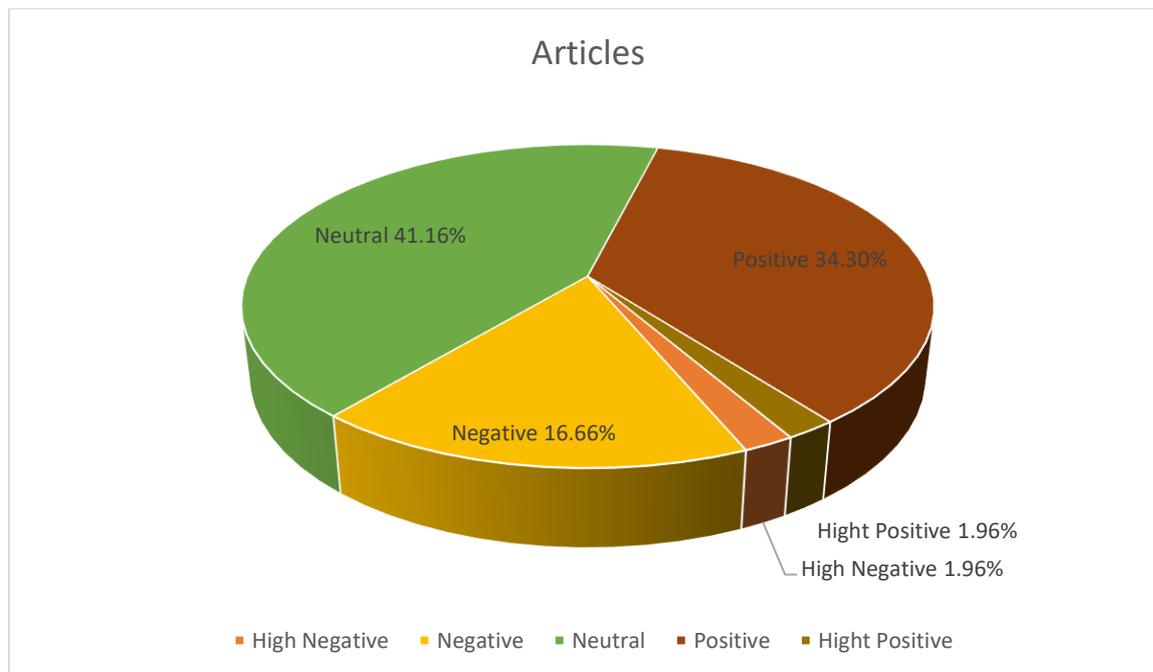


Figure 3: *Sentiment analysis result of sharia card development*

From the figure above, it can be seen that the existence of sharia cards in the published literature on Islamic economics and finance is quite a lot and has various sentiments. In accordance with the SentiStrength grouping, high positive and high negative attitudes have the same proportion where each is at 1.96%, the proportion of positive attitudes is higher than the proportion of negative attitudes with a ratio of 34.30% to 16.66%. Overall, the proportion of neutral attitudes is the most with a percentage of 41.16%.

Therefore, it can be concluded that the majority of people have a more neutral sentiment in addressing the existence of the sharia card. The next sentiment that

is quite a lot is positive sentiment. However, it was also found that there was a negative response with a smaller proportion with a significant difference in the ratio with positive sentiment.

Positive sentiment is the opinion of researchers who tend to be optimistic and positive in responding to the existence of sharia and supporting the development of sharia cards. Meanwhile, negative sentiments are opinions that are negative and tend to criticize in reviewing the existence of the sharia card, or in other words its existence is still not optimal and needs to be reviewed on the law and its benefits for various reasons.

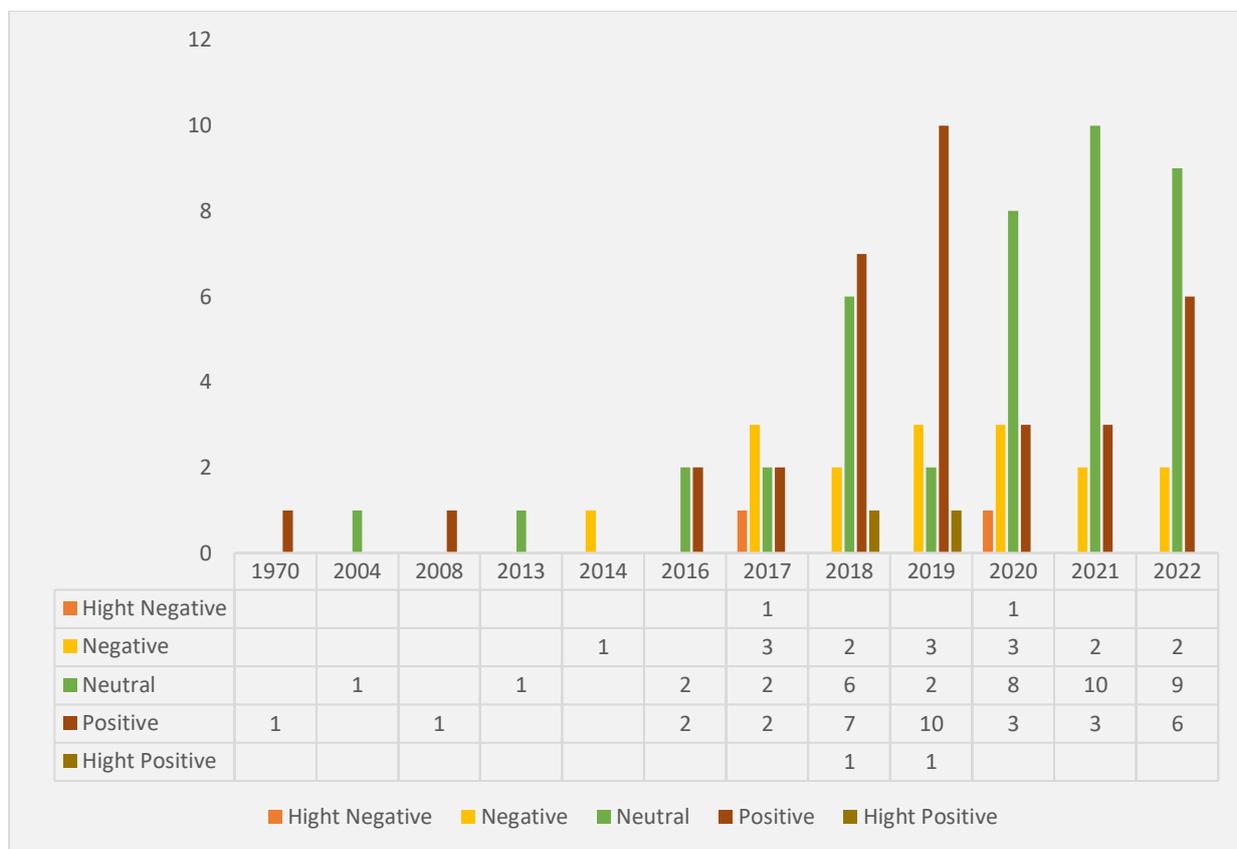


Figure 4: Intertemporal Sentiment Analysis of sharia card

Figure 4 shows the distribution of the number of articles with neutral sentiment from 2004 to 2022. And the peak in the number of neutral sentiment occurred in 2021 with 10 articles. One of the articles with neutral sentiment is a paper written by Asmita, (2021) entitled “Analisis Faktor-Faktor Penunjang dan Penghambat dalam Memilih IB Hasanah Card pada PT. Bank BNI Syariah Cabang Pekanbaru”. According to the study's findings, social and cultural variables have a supporting role in motivating consumers to choose and use IB Hasanah Card products. While the inhibiting factors for customers in choosing IB Hasanah Card products are lack of promotion and marketing, lack of knowledge of professional HR in the Hasanah Card industry, a lack of collaboration between Bank BNI Syariah and associations, and a lack of branch offices.

FINDINGS

This analysis discovered that numerous studies that have been published have covered the literature on sharia cards in great detail. Additionally, this study displays the degree of sentiment analysis from numerous papers about perceptions of sharia cards that were published in various periodicals. Sentiment analysis gives a summary of the comments and viewpoints expressed regarding the syariah card. However, the findings show that this is still being debated, where there are pros and cons regarding the existence and usefulness of the sharia card.

The dominance of neutral sentiment shows that there is still a knowledge gap related to sharia cards. This is a challenge for every element involved in the field, including academia, government, and others, to increase the effectiveness of the sharia card and adapt it to sharia limitations. In addition, appropriate socialization is also needed by all parties related to sharia cards.

Table 4: Sentiment on Sharia Credit Card

Positive	Negative
<ul style="list-style-type: none"> • Easy and useful • There are special discounts and rewards • Permissible by contemporary ulama' • Good service • Safe • Efficient 	<ul style="list-style-type: none"> • There is a determination of fines and compensation • Legal uncertainty • Excessive consumption

The results of the sentiment analysis suggest a high level of negativity (1.96%) and negativity (16.66%). This demonstrates that there are still misconceptions about the use of the sharia card. One of these unfavorable attitudes stems from the fact that some people continue to believe that the implementation of certain fiqh muamalah provisions is unclear, such as: (A) There is no mechanism in place for sharia credit cards to monitor whether the cardholder uses it to pay for solely halal purchases or vice versa; (b) Islamic credit cards should ideally be able to guarantee that their users are not *israaf* (consumptive/excessive), but in practice, credit cards tend to make their holders consumptive. Where in this case it is clearly contrary to sharia principles; (c) late charge (fines) and *ta'wid* (compensation) fees due to late payments. Where this raises questions about the differences in fines underlying Sharia Cards and Conventional Credit Cards that contain usury (Zein et al., 2021).

The result by Kartini & Hanurat, (2017) demonstrates that customers still don't understand how to utilize sharia cards, particularly when it comes to deals and discounts. This is what resulted in customer interest in this product not experiencing a significant increase. But on the other hand, the price level owned by Islamic banks is still competitive even if there is or lack of discounts. Service to customers is also very good and there are no customer complaints about the facilities provided.

On the other hand, the sentiment analysis results also show that there is a high positive sentiment of 1.96%. One of the articles showing high positive sentiment is an article written by Abd Haling et al., (2019) which states that current credit card needs are influenced by two factors, namely practical advantages with special discounts and rewards, and the convenience of being able to buy goods or enjoy the facilities now and pay later.

Furthermore, we can see from Figure 4 which shows a fluctuating curve for the number of articles with positive sentiment on the sharia card theme from 1970

to 2022. The peak of the highest number of positive sentiments occurred in 2019 with 10 articles.

Fatoni, (2022) claimed that the use of credit cards is a way to meet the demand for a secure and effective method of payment. *Kafalah bil ujah* is one of the contracts utilized in the sharia card concept. This contract makes it easier for someone to meet their needs. *Al-kafalah* can protect the possibilities that occur during the transaction or while the debt has not been paid (Moh. Asra, 2020). Maksum, (2022) states that there are differences of opinion among fiqh scholars regarding the *kafalah* fee at Islamic Financial Institutions because a *kafalah* contract is essentially a *tabarru* contract (charity program), not a *tijari* contract that is entitled to be paid, This principle makes some fiqh scholars not allow a *kāfil* to take the fee, but there are some other scholars who allow fees in *kafalah* contracts because of the general conditions of benefit, so that if there is no fee then no benefit will materialize and the implementation of good deeds.

The legitimacy of penalties for late payments on Islamic credit cards is another area where modern scholars disagree. The DSN-MUI fatwa permits the imposition of fines on clients who are able but purposefully postpone payments. The purpose of hanging onto fines is to act as a disincentive to customers who can afford to pay their obligations. Allocated fines will be used as social money in the future. However, there are some other scholars who do not allow this fine because it contains elements of usury (Yulia Febriyati, 2022). The result of Aini, (2021) demonstrates how customer preferences for utilizing the Sharia card are shaped and influenced by religious and psychological factors (attitudes toward fatwas).

CONCLUSION

By offering a meta-analysis of sharia card perspectives from the already-existing scientific literature on Dimensions in the form of tables and graphs, this study seeks to ascertain the level to which scientific literature has formed around the topic of sharia

cards. Based on the volume of publications each year, content analysis is carried out. The study's findings indicate that there have been more research articles on digital banking throughout the course of the last 52 years, from 1970 to 2022, suggesting that this field has room for more research and development. On the other hand, the results that have been shown are still dynamic and may occasionally alter if new trends or future increases and decreases in variables occur.

This study also includes sentiment analysis of a detailed assessment of multidisciplinary studies on sharia cards conducted since 1970. In terms of sentiment analysis, the global assessment of the use of sharia cards has a positive sentiment of 34.30%, a negative sentiment of 16.66%, and a neutral attitude of 41.16%. The rest showed high positive and high negative sentiment with a respective percentage of 1.96%. This shows that the scientific literatures on sharia cards have a range of sentiment which are dominated by neutral sentiment, followed by positive sentiment, then negative sentiment.

The utilization of this research as reading material and contemplation will help examine sharia card law and its application while taking into account community attitudes to lessen unfavorable perceptions and its defects. It is thought that by doing this, it is hoped that sharia card products can attract more public interest and trust.

The limitation of this research is that the data has not been used comprehensively so that it only looks at perception articles, the majority of which come from Indonesia. Suggestions for further research are to process data in more global articles so that perceptions of the application and law of sharia cards can be known not only to reflect on existing sharia card products in Indonesia, but also throughout the world. In addition, the authors suggest that there be new articles that analyze the sentiment of literature publications about Islamic cards in articles that have been indexed by Scopus so that the research results obtained are richer and more varied.

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