

DIGITAL DISCOURSES ON TAKAFUL: UNVEILING PUBLIC PERCEPTION THROUGH SOCIAL NETWORK ANALYSIS

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Abstract: *This study aims to analyze public perception of Takaful using social media analysis methods based on social network analysis (SNA). In addition, this study aims to identify the dynamics and important actors in digital discussions. The study uses public communication and social network theory to explore the complexity of public reactions to Takaful in the context of Islamic finance. This study focuses on how public opinion evolves over time and the factors that influence these changes, including language, age, and gender. Data were collected from various social media platforms on 11 up to 17 May 2025, using the Talkwalker platform by tracking digital conversations containing the keyword "takaful". The SNA approach was used to identify key actors and interaction patterns, and natural language processing (NLP)-based sentiment analysis was used to categorize public opinion into neutral, negative, or positive. Additional visualizations were used to gain a better understanding of demographic distribution, time trends, and key issues. Public discussion about Takaful on social media is very dynamic and sensitive to current issues. Sentiment changed from negative to positive during the monitoring period, and there was an increase in engagement from productive age groups, especially men. Sharia compliance, Takaful's function in development, and financing innovation were the main topics. In addition, it was found that some digital entities or accounts have significant power to influence public opinion. The results show that in public communication related to Takaful, a strategic and data-driven approach is essential. This study helps develop a more inclusive and flexible Islamic finance communication strategy. The results are also relevant for policymakers, regulators, and market players in understanding the public opinion landscape and creating policies that adapt to digital changes. This study offers a new method combining SNA and sentiment analysis to study public perception towards Takaful. It offers additional value to data and technology-based Islamic finance research, and offers an analytical model that can be used in digital financial literacy and policy communication research.*

Keywords: Takaful, Social Network Analysis (SNA).

1. Introduction

Takaful is an insurance system based on Islamic law, which is based on the principles of mutual assistance (ta'awun) and shared responsibility (tabarru') (Rahman et al., 2019). Unlike conventional insurance which is profit-oriented, Takaful emphasizes fairness, transparency and compliance with Islamic teachings in its operations (Dahnoun & Alqudwa,

2018). The takaful industry has experienced significant growth in several countries including Indonesia, Malaysia and Middle Eastern countries, as Muslim society's awareness of the importance of Sharia-compliant financial products continues to grow (Yetti, 2025).

However, despite its growth, takaful still faces various challenges such as lack of public awareness, limited distribution networks, and dependence on certain financial institutions (Lubaba et al., 2022). Therefore, an approach is needed that provides a more comprehensive understanding of the dynamics and structure of relationships between actors in the takaful ecosystem (Maduku & Mbeya, 2024). A relevant and comprehensive approach to studying this problem is Social Network Analysis (SNA) (Apriantoro & Ananda, 2024).

SNA is an analytical approach focused on mapping and measuring social relationships between individuals, groups, or institutions (Diniyati et al., 2020). In the context of Takaful, this approach can be used to identify key actors such as Takaful providers, regulators, educational institutions, religious scholars, marketing agents, and Takaful participants themselves (Bratawisnu & Alamsyah, 2018). SNA was chosen because of its ability to identify key actors and information dissemination patterns in the digital ecosystem, which is crucial to understanding public perception (Ariyanti, 2022). SNA not only functions to map social networks, but also provides in-depth insights into patterns of influence, communication flows, and weak points in information distribution that can be used as a basis for designing more targeted and efficient Takaful education and promotion strategies (Sihombing & Nataliani, 2021).

The results of this network analysis can provide an overview of the effectiveness of collaborative systems in the Takaful ecosystem (Prabhawa et al., 2022). For example, SNA can show whether religious institutions are sufficiently involved in the network to support public trust, or whether takaful companies are able to build strategic relationships with the community to expand market coverage (Azmi et al., 2021). Because previous studies on Takaful tend to use traditional surveys, they are less able to capture real-time dynamics on social media (Rohimah et al., 2023). In other words, SNA can be a strategic tool to formulate policies for developing a takaful industry that is more inclusive and responsive to community needs (Bratawisnu et al., 2018).

The purpose of this study is to analyze the structure of social networks in the Takaful ecosystem using the Social Network Analysis (SNA) approach. This study aims to identify the main actors in the network, map the pattern of relationships between the institutions and individuals involved, and assess the extent to which the strength and direction of these relationships influence the spread of information, trust, and community participation in takaful products.

2. Method

By using the Talkwalker social intelligence platform, a comprehensive understanding of public perceptions of Takaful can be obtained by conducting social network analysis. Data collected using the Talkwalker platform during the period 11–17 May 2025 with the keyword “takaful”, filtered based on English, Indonesian, and Malaysian to reflect local and global contexts. And the geographical area focused on Malaysia, the United States, Indonesia, Egypt, East Africa and Arabia. The types of media analyzed include Twitter, Online News Other, Blogs, Facebook, and YouTube. Sentiment analysis was carried out to group public opinion

into positive, negative or neutral. In addition, the system also identifies popular hashtags that often appear, such as Takaful, Financial, and Bank. and estimates the age distribution where the 25-34 age group dominates digital conversations. In addition, sentiment analysis using Talkwalker to group public opinion into positive, negative categories, the results showed 26.3% positive public opinion and 8.5% negative (Apriantoro et al., 2024).

The results of this analysis provide insights into the key factors, key issues and dynamics of public conversation about Takaful including profitability, public trust, transparency of fund management and comparison with conventional insurance (Apriantoro et al., 2022, 2023) .

The method of sentiment analysis of takaful issues uses a natural language processing (NLP) approach, which consists of several important stages. First, tokenization is used to divide user text into smaller linguistic parts. Next, syntactic analysis is carried out to find out how words are connected and their structure in sentences. After that, semantic analysis is used to understand the meaning of words and sentences in the context of takaful discourse. The data processing flow is shown in Figure 1.

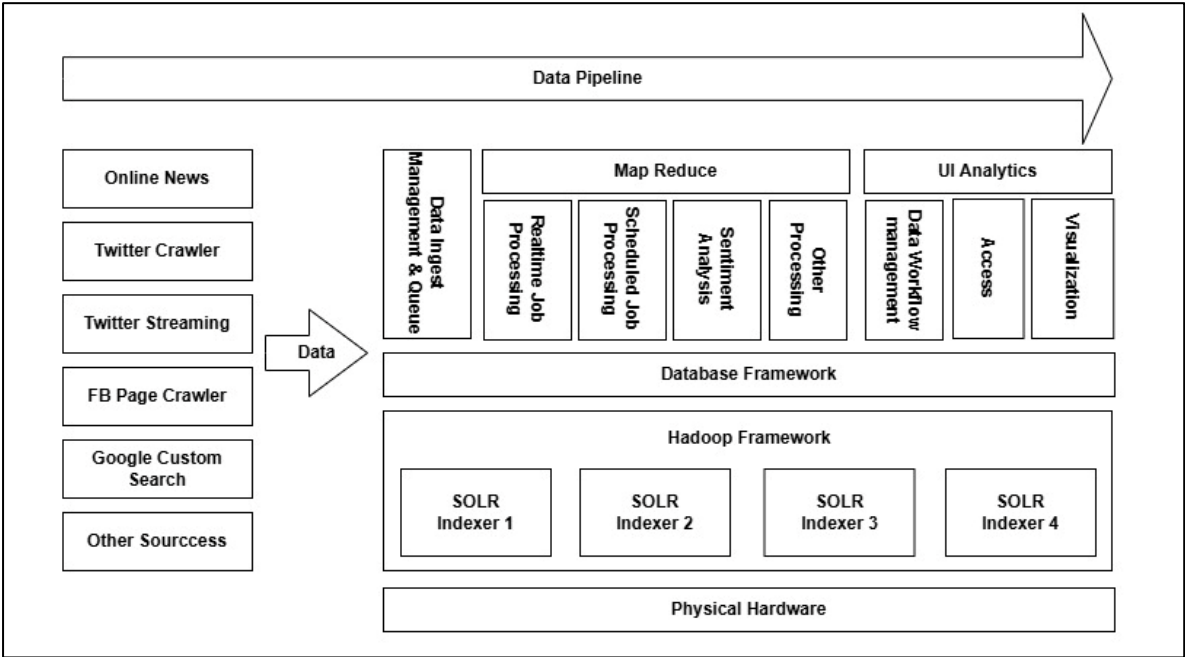


Figure 1: Big Data Processing Architecture from Various Sources

The use of sentiment classification algorithms is a critical part of this process. The algorithms categorize public perception of takaful (whether provided by Islamic financial institutions or professional insurance companies) as positive, negative or neutral. This methodology collects data from thousands of online discussions and provides a strategic perspective on how takaful is perceived by the wider community.

This method not only helps to measure public opinion but can also help regulators, industry players, and policy makers to create better sharia insurance literacy strategies and develop more effective educational campaigns. By knowing the evolving public sentiment, Takaful communication and product development strategies can be made more contextual and responsive to increase sharia financial inclusion (Andersen & Swami, 2021).

3. Result and Discussion

Using the Social Network Analysis (SNA) method to assess public perceptions of the takaful principle through the Talkwalker tool on social media platforms, the results provide a deeper understanding of online discussions about the idea. The themes that emerged included Takaful providers, authorities, educational institutions, scholars, marketing agents, and Takaful participants. This shows how active the community is in addressing the issue of mutual assistance and the principle of fairness in the Takaful system.

4. Key Metrics

The level of public perception towards Takaful varies greatly from one hour to the next. The public perception score towards Takaful fluctuates over time, sometimes reaching high values and others falling to zero or very close to zero. This may indicate a change in a particular process or event that affects the public's view of Takaful.

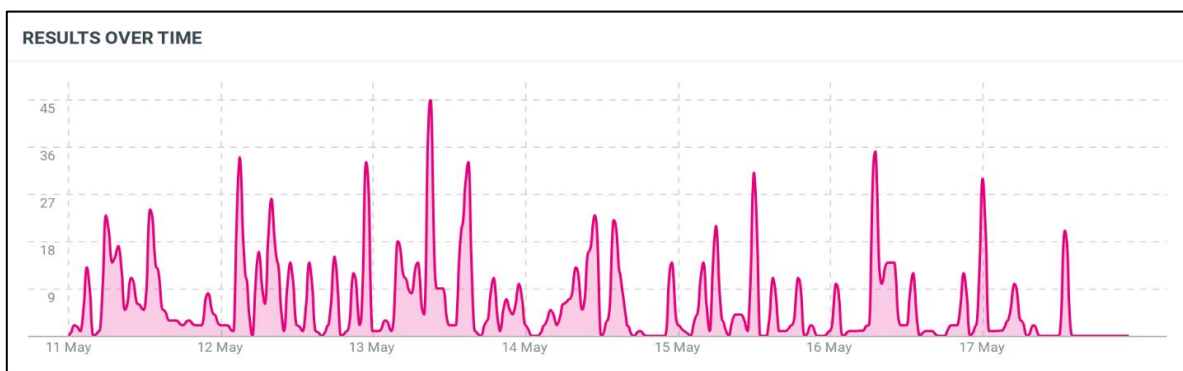


Figure 2: Data trend graph over time

The graph shows sharp spikes and dips to zero periodically, indicating uneven activity over time. One example is on the 13th May 2025 has a much higher Takaful score than at another hour, 09:00:00, when the Takaful value is 45. The spike in conversations on that date was most likely related to the launch of a new Takaful product by company X, which went viral on the Twitter platform and triggered a significant increase in interactions within a short period of time.

Several periods, particularly early May 11 and late May 17, show very low or near-zero results, indicating a decline or absence of discussion at those times. A sharp drop to zero could indicate a time when there were no significant events driving online conversation, or it could indicate limited data during that time.

If more data were available, combining it with the current analysis could provide a better understanding of the variables influencing Takaful and its consequences. In Figure 3, this picture is visualized using net sentiment over time.



Figure 3: Comparison graph between positive and negative sentiment

An examination of the net sentiment data conducted between May 11, 2025 and May 17, 2025 shows that there was a marked shift in public opinion but it did not change significantly. The sentiment range was much more consistent in the first period, which ran from May 11, 2025. May to 12 May. Meanwhile, at 07:00 on May 12, there was a drastic decline to negative sentiment reaching a score of -100. This sharp decline is thought to be related to the emergence of public criticism of one of the Takaful providers who reportedly experienced delays in the claim process or the emergence of viral posts questioning the transparency of the service. Nevertheless, positive sentiment remained dominant overall during the monitoring period, indicating that public trust in the Takaful concept remains relatively strong.

Although sentiment was more consistent on the 1st 1 May with a value above 0 generally indicates a positive outlook, but on May 12 at 23:00 and on May 13 at 15:00 there was a slight change in sentiment value with values of -50 and -33 which indicate a shift in perspective.

In addition, sentiment was generally neutral between May 1 and 4. 1 May 5, with a value approaching zero. At 16:00 on May 15, there was a significant increase in sentiment with a score of 100 that occurred consistently until 19:00. This sharp increase is thought to be due to the circulation of positive content, such as testimonials from Takaful participants that received widespread attention, or the launch of a digital campaign from a well-known Takaful company that showcased the success of the claims process and emphasized the value of togetherness in their services. The enthusiastic response from social media users to this content seemed to trigger an increase in interactions that strengthened Takaful's positive image during that time period.

Finally, sentiment continued to change on 16 and 17 May. On May 16 at 06:00 and 16:00 there was a significant decrease from 0 to -100. The data shows significant changes between positive and negative opinions across both hours. This could be due to certain events or issues that trigger high negative sentiment in a short period of time.

5. Top Themes

This picture can be seen through the visualization of the main themes in Figure 4.



The Emergence of the Word **Takaful** seems to be the most prominent and significant, indicating that it is the main subject of discussion. One important example of the development of Islamic finance is Takaful, which is a sharia-based insurance system that upholds the values of mutual assistance and solidarity. In addition, words such as **financial**, **bank**, **income**, **investment**, and **market** also appear in large sizes, indicating that takaful is closely related to the banking and financial industry as a whole. This shows the function of Takaful in encouraging investment, economic growth, and protecting people's income.

In addition, the emergence of the terms **digital**, **innovation**, **platform**, and **future** shows the digital transformation that is taking place in this industry. This shows that takaful today does not only pay attention to conventional things but also adapts them to technology to improve efficiency and service reach. Support from government and policy makers is also evident through words such as **government**, **minister**, **policy**, and **program**, indicating regulatory efforts and national strategies to encourage the development of this sector.

In this visualization, in addition to the economic and technological aspects, sharia values also receive attention with the emergence of words such as **compliant**, **principles**, and **solidarity**, which show that takaful is based on Islamic law and moral ethics. In addition, its scope is quite broad geographically, as shown by the term **international**, **regional**, and **Malaysia**, indicating that discussions about Takaful span both international and local scales. Finally, the aspects of education and public awareness are also raised through words such as **education**, **awareness**, and **initiatives**. This shows how important education and literacy are to increase understanding and adoption of takaful products. Overall, this picture shows a complex, dynamic and evolving takaful ecosystem as the need for sharia-compliant financial solutions increases.

6. Demographics

It is shown that the number of male respondents in the survey is greater than the number of female respondents, namely 392. This is in accordance with the theory of Gender Gap in Financial Literacy (Hasler & Lusardi, 2017) which shows that women's participation is lower

in financial discussions. This shows that male responses dominate the sample and can provide alternative perspectives, especially regarding gender issues. Figure 5 shows a visualization of gender.

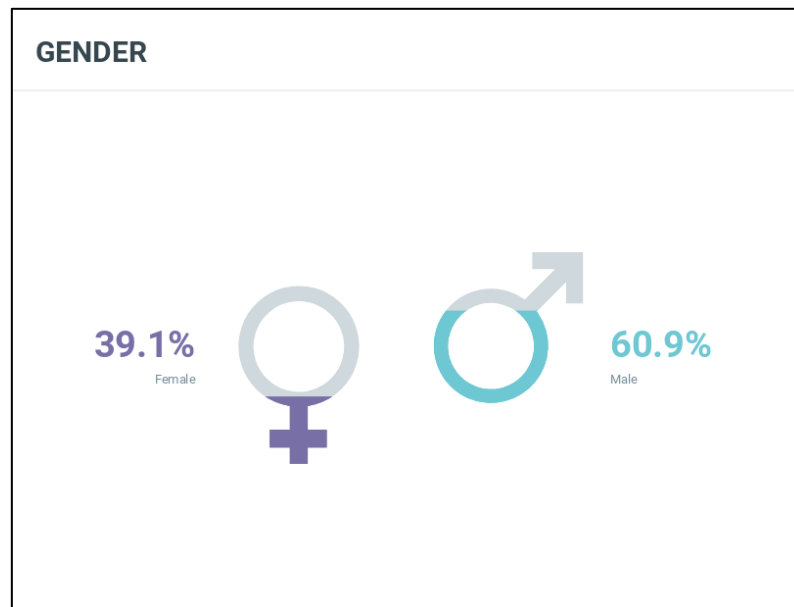


Figure 5: Visualization of gender distribution

Based on sharia principles, the takaful system opens up a wide space to discuss gender equality issues in financial protection. In this case, the form of questions or statements asked can affect the extent to which takaful services and products can be accessed fairly by all genders. The disparity in the number of participants or responses between men and women can be caused by differences in their understanding, access, or experience of the sharia-based financial protection system.

For example, if women's participation in Takaful programs is lower than men's, this may indicate that women face several challenges, including issues related to their socialization, their understanding of Islamic finance, and the community's perception of their role in managing family finances. This phenomenon suggests that there needs to be a more inclusive approach to promoting and teaching Takaful so that the benefits can be felt equally by everyone, regardless of gender.

This observation is very important because it can be used as a basis for creating better communication and education methods, especially to increase women's awareness and participation in the Takaful system. This not only strengthens the principle of justice in Islamic financial services, but also supports women's economic empowerment through financial protection that is in accordance with Islamic values.

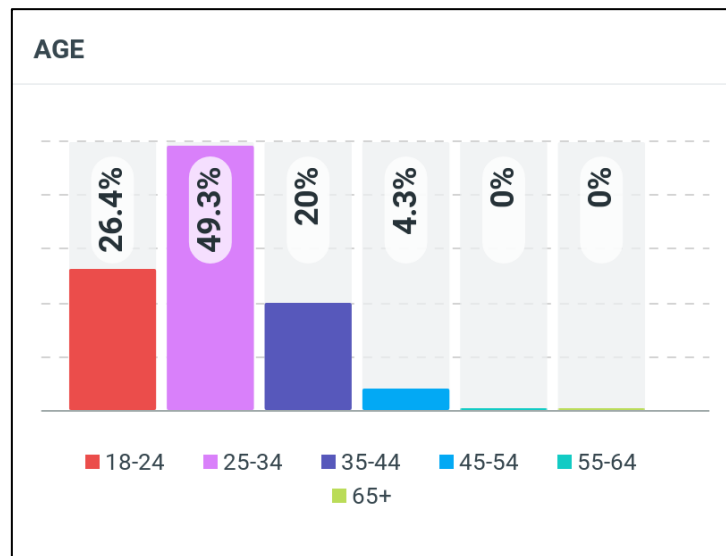


Figure 6: Visualization of respondent age distribution

Figure 6 shows 469 respondents; it was found that the largest age group in the survey was those aged between 25 and 34 years. This shows that this age group is the most common in the sample or population surveyed. Other age groups, including those aged 18 to 24 and 35 to 44, were also well represented, with 124 and 94 respondents respectively. The fact that these two age groups were represented in relatively large numbers indicates a wide range in age representation, covering both middle-aged and younger groups. This shows how important it is to consider the perspectives of different age groups when understanding and addressing Takaful issues.

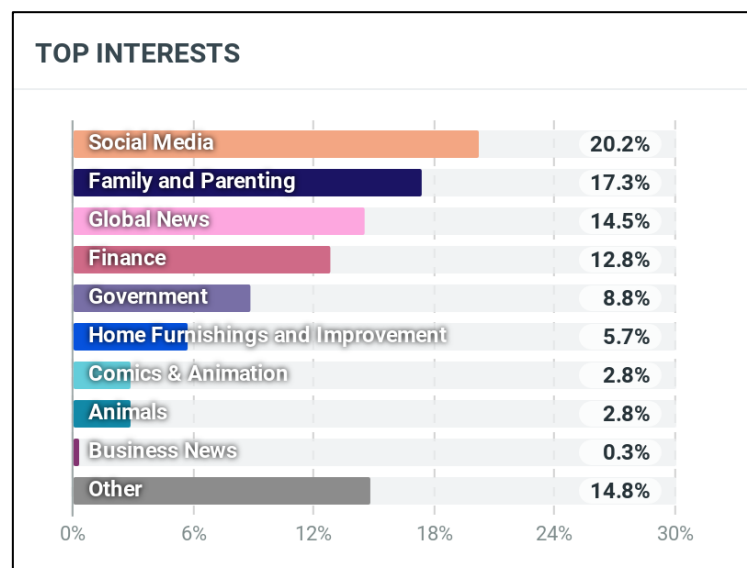


Figure 7: Visualization of the distribution of interests across various respondent categories

Interest in Figure 7, score 71 in social network analysis about Takaful, shows significant attention about **Social media**. This category is in the highest position, reflecting that social media is the main channel of communication and information consumption. In the context of

takaful, this is a strategic opportunity to spread the values of mutual protection, justice, and mutual cooperation. Takaful digital campaigns can utilize this platform to reach the younger generation, spread educational content, participant testimonials, and simulations of takaful benefits in an attractive and easy-to-understand visual form.

Next, **Family and Parenting** is in second place with a **score of 61**, which indicates the high interest in family and parenting is very relevant to the basic principles of takaful, namely protection and shared responsibility in facing life risks. Family takaful products, such as **child education takaful, family health takaful, and sharia-based life takaful**, can be designed and promoted specifically for this segment. Education on how takaful can maintain family welfare in the long term is crucial.

Then **Global News** is in third place with a score of 51, indicating that interest in global news shows that people care about international socio-economic dynamics. This opens up space to introduce takaful as part of a sustainable and ethical global Islamic financial system. Information about the success of takaful in other countries and its role in social protection can add legitimacy and appeal to this system.

Followed by **Finance** with a score of 45 reflecting interest in finance shows that people are increasingly aware of the importance of financial planning. This provides a great opportunity to offer takaful as a sharia-compliant financial protection solution. Explanation of the advantages of takaful compared to conventional insurance, such as **being free from usury, tabarru' contract, and fair distribution of the surplus**, would be particularly relevant to this audience.

In the middle category, there is **Government** with a score of 31 which illustrates interest in government issues can be used to educate the public about state policies that support the development of the Islamic financial industry, including takaful. Categories such as **Home Furnishings and Improvement** with a score of 20 Although it seems indirect, this category is still relevant. **Property takaful products** can be linked to people's interest in houses and renovations. Education on how takaful can provide protection against the risks of fire, disasters, and house damage will add value to this segment. Interest in **Comics & Animation** and **Animals were recorded** with a score of 10 each, which although relatively small, Interest in animation and animals can be utilized in the context of delivering visual and story-based education to introduce the concept of takaful to children and families. For example, creating educational animated content on the theme of protection and mutual assistance can instill takaful values from an early age.

What is quite striking is **Business News**, which only scored 1, indicating that interest in business news is very limited among respondents. However, the **Other category** recorded a **score of 51** This category shows the diversity of interests outside the main list. This suggests that takaful must come in various forms and packages, adapting to the needs of various community groups. Adaptation of language, cultural approaches, and variations of takaful products are key to reaching this segment.

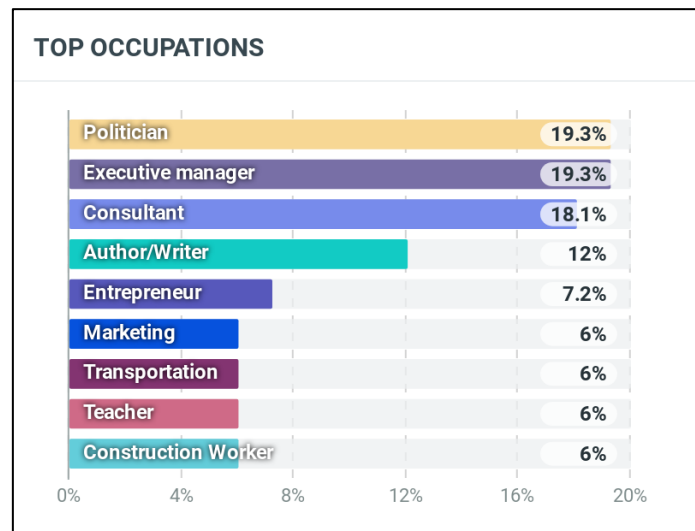


Figure 8: Distribution of top jobs

Figure 8 shows data on the top positions that may be related to involvement in a particular industry or initiative, which in this case may be related to the development and implementation of the Takaful (Shariah-based insurance) concept. The two jobs with the highest proportions are **politicians** and **executive managers**, each at 19.3%. This shows that policy makers and organizational leaders play an important role in driving policies and creating an ecosystem that supports the growth of the Islamic finance industry, including Takaful.

Then , **the consultant** ranked third with 18.1%, reflecting their strategic role in providing professional advice on the structuring and implementation of Islamic financial products that meet market needs. Meanwhile, **writers or authors** (12%) **are** the main drivers of the dissemination of takaful education and knowledge through writings, books, and digital media. Entrepreneurs (7.2%) are also an important group because they face high business risks and therefore have great potential to become users of takaful services, especially in terms of asset and business protection.

Other occupations such as marketers, **teachers**, **transportation** workers **and** construction **workers** each recorded a figure of 6%. Although small in number, this group shows the importance of access and inclusion in micro, affordable and customized takaful products. Therefore, this data can be the basis for formulating a Takaful product strategy to develop Takaful products that are more focused, inclusive, and based on the principle of mutual assistance in overcoming risks together.

7. Conclusion

This study highlights the role of social media, particularly through the use of Talkwalker for SNA analysis, as a dynamic platform to express and discuss the concept of Takaful in the Islamic financial system. Social media has proven to be a strategic space to shape public opinion and raise awareness of the principle of mutual assistance in risk management. However, this study also reveals that certain entities hold a dominant position in directing the flow of takaful information and public perception, reflecting the unequal distribution of digital power. This analysis highlights the gap in participation and access to educational information about takaful, and the need for collective action to bridge this gap to create a fairer and more equal representation. These findings highlight the importance of an inclusive digital narrative management strategy to encourage broad participation from various community groups and reduce the influence of dominant groups that can limit objective public understanding. Therefore, this study highlights the strategic recommendation that can be taken is the need to optimize the use of social media that is relevant to the dominant user demographic. Based on data that the most active social media users are in the 25–34 years age range, Takaful promotional campaigns are recommended to focus on popular platforms such as Instagram Reels and TikTok, by displaying content based on participant testimonials as an effective approach. This strategy is believed to increase emotional connection and trust in the Takaful concept, especially among the younger generation who are more responsive to visual and personal content. However, it should be noted that this study has limitations, namely that it only relies on data from platforms that can be monitored by Talkwalker. This means that conversations that occur outside the reach of the tool such as interactions in WhatsApp groups or offline discussions in the community—are not covered in the analysis. This limitation opens up opportunities for further research that can explore other communication dimensions in the dissemination of Takaful information, in order to obtain a more comprehensive picture.

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