Distribution Patterns and Content Analysis of Online Word-of-Mouth at Pusat Komuniti MP Ipoh Timor-ADUN Pasir Pinji, Malaysia

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Abstract: **Politics, as the domain of government and decision-making, is profoundly entwined with the power and influence of word-of-mouth (WOM), which can potentially lead to meaningful developments within communities. WOM should not be undervalued as it may act as a potent force that creates a ripple effect, amplifying individual voices and drawing attention to critical matters through the sharing of experiences, concerns, and information. As a channel for both public service and political engagement, Pusat Komuniti MP Ipoh Timor-ADUN Pasir Pinji serves as a hub for offering assistance, serving, and engaging with residents. To gain an understanding of the social structure and identify some of the community issues, this research aims to analyze the distribution patterns of online WOM and conduct content analysis to explore the reported issue themes, demographic factors, and their associations. The study involves analyzing 40 WOM samples using descriptive and inferential statistics, as well as a chi-square test. Based on the key findings, the major issue themes were determined to be road potholes (35%), illegal waste management (25%), and clogged drainage (20%), among all issues. As compared to Pasir Puteh, the rural area of Pasir Pinji is more susceptible to local matters, accounting for an estimated 77% of WOM cases, likely due to its larger population and lack of infrastructure. Reported issue themes were found to be significantly associated with gender and location (p < 0.05), suggesting that these demographic traits may be influential factors. Indeed, the analysis of WOM can reveal useful insights into community concerns, inform political efforts, and guide the development of policies. By embracing the values of democracy, this research upholds HARAPAN's slogan, "to serve, to lead, with actions," highlighting the essence of proactive, responsive, and effective governance in serving society as a whole.**

Keywords: **Distribution, content analysis, word-of-mouth (WOM), Pusat Komuniti MP Ipoh Timor-ADUN Pasir Pinji, politics, community, "to serve, to lead, with actions".**

I. INTRODUCTION

Word-of-mouth (WOM) has emerged as a vital element of community service facilities, and functions as a crucial link between the center and the community it serves. It is indubitably known that online WOM has benefitted beyond conventional human interactions in the age of digital communication. In the context of WOM, it would refer to the

dissemination of thoughts, comments, and suggestions via online platforms such as social media and related websites. Moreover, public service awareness and campaigns for politics have also made extensive use of WOM [1-2]. This development can be ascribed to the fact of widespread integration of internet sites and other communication technologies into the everyday lives of people across diverse communities. According to recent data as of January 2024, there are 5.35 billion individuals, or 66.2% of the world's population, are active internet users [3]. Never doubt that the most widely assessed communication app is WhatsApp, which has over 2 billion users monthly [4]. Over time, WhatsApp media has developed into a potent online phenomenon and can potentially act as a powerful WOM channel.

In the realm of politics, WOM is a powerful tool for guiding political decisions and advocacy efforts through the sharing of experiences, ideas, and opinions within communities. This can potentially amplify messages and raise awareness to reach a larger audience. By facilitating the exchange of viewpoints and information via an open discourse, WOM may ultimately promote a better-educated and more involved citizenry. Furthermore, thanks to community engagement in raising issues and emphasizing the desire for an efficient and responsive government, WOM could play a vital role in holding political leaders accountable. Eventually, WOM can help create a more equitable and inclusive society by fostering unity among citizens, encouraging transparency, and driving toward a positive shift.

Pusat Komuniti MP (Member of Parliament) Ipoh Timor-ADUN (State Assemblyman) Pasir Pinji, Malaysia is a community service center associated with members from the legislative assembly, under the administration of Democratic Action Party (DAP) known as Pakatan Harapan (The Alliance of Hope). Typically, this center provides the residents of the area with a range of services and support, which include answering inquiries, resolving issues, and offering details on government initiatives and services. Concerning this, the establishment of avenues such as Ipoh Timor hotlines and WhatsApp customer service has allowed citizens to report acts of misconduct or various other concerns with ease, without fear of reprisals. For organizations, encompassing those in the political sphere, it is critical to have an understanding of the distribution patterns and content of WOM as this enables a better monitoring and management system by identifying the common source of problems regularly and ensuring overall citizens' satisfaction.

The distribution patterns of WOM in the Pasir Pinji constituency as a quantitative measure may exhibit distinct characteristics influenced by age, gender, location, and other demographic factors. It also entails evaluating the volume and frequency of reports or e-complaints about residential areas. Based on the patterns examined, ADUN Pasir Pinji could boost its online presence, connect with the community more effectively, and reach a broader clientele. The qualitative content analysis of WOM, on the other hand, takes into account viewpoints, perceptions, and sentiments laid out in online threads about ADUN Pasir Pinji. Through this analysis and data acquired, it can be utilized to enhance service, handle complaints, and build the reputation of the organization within the community.

Drawing from current real-life scenarios, there are numerous problems from road potholes being the most persistent issue to illegal waste piles [5], thick undergrowth [6], and clogged drains [7]. With relevance to this, undertaking the distribution patterns and content analysis of WOM at ADUN Pasir Pinji Community Service Center can provide many substantial benefits. Among the advantages include service offerings with concrete actions that better tailor to the specific needs of the residents and build a more targeted community engagement by enhancing its visibility. Overall, this research aims to improve communication efforts and effectiveness in serving the community, which aligns perfectly with the motto "To serve, to lead, with actions," through proactive initiatives that have a meaningful and long-lasting impact on society.

II. METHODOLOGY

A. Research Design

In this research, a mixed-methods approach that involved both qualitative and quantitative analyses was conducted to gain a thorough view of the online WOM distribution patterns and content analysis at the ADUN Community Service Center situated in Pasir Pinji, Ipoh, Perak, Malaysia. While the qualitative component offered an understanding of the nature of online discussions posted by residents, systematic data analysis was made feasible through the quantitative component. In addition to generating quantitative data that can corroborate and contextualize the qualitative findings, this approach enables comprehensive insights into how the community service center is perceived online, and what enhancements it can implement to support and fulfill the requirements of its community.

B. Sample Location and Population

The sample locations as shown in Figure 1 comprise Pasir Pinji (4° 34' 17" North, 101° 5' 18" East) and Pasir Puteh (4° 33' 40" North, 101° 4' 35'' East), with the sample population consisting of residents of these two particular regions. Since ADUN Pasir Pinji is in charge of overseeing and providing services for those areas, the residents of Pasir Pinji and Pasir Puteh have therefore become the target group. By monitoring these rural regions, it is possible to obtain feedback and observations from residents who either directly benefit from or are affected by the services presented by ADUN Pasir Pinji. For this study, a total of 40 samples were collected and included for further analyses.
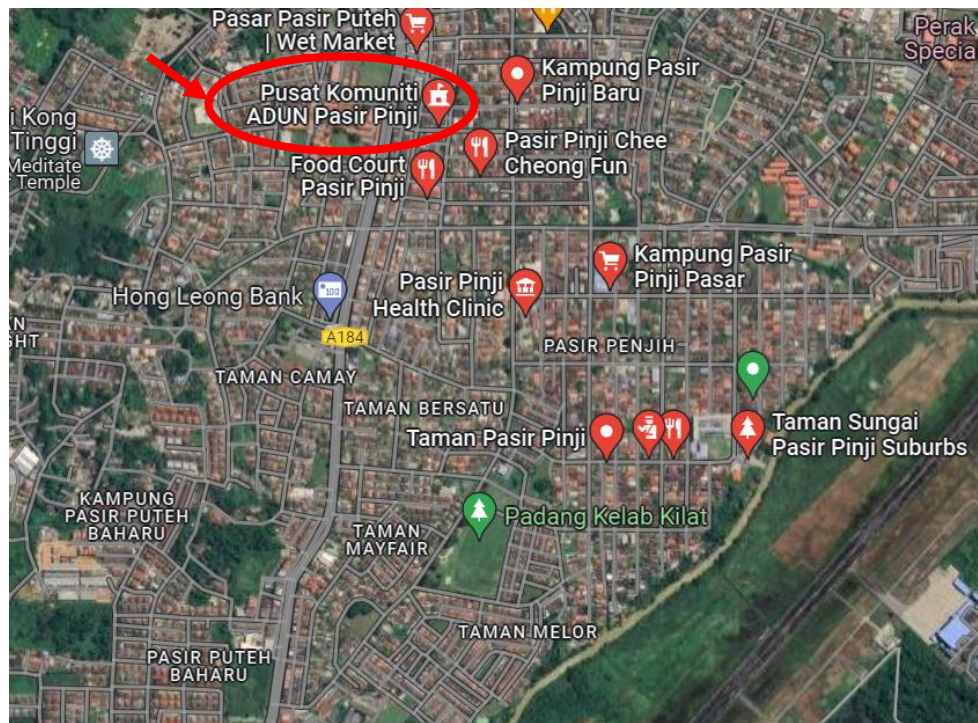

FIGURE 1; GEOGRAPHICAL LOCATIONS STUDIED, INCLUDING PASIR PINJI AND PASIR PUTEH, IPOH PERAK, IN THE VICINITY OF PUSAT KOMUNITI ADUN PASIR PINJI.

C. Data Collection Methods

Data were mainly collected from online media such as Ipoh Timor hotlines and WhatsApp, spanning from December 27, 2022, to January 17, 2023**.** The process of gathering information from these platforms was performed using manual search strategies, which involved scrolling through the conversations manually and recording all the required data. With the use of this technique, specific and relevant data points can be gathered that would not be retrieved via automated tools like web scraping, thereby ensuring a comprehensive dataset for qualitative and quantitative analyses. Throughout the data collection process, ethical considerations were adhered, to maintain confidentiality and anonymity of individuals, following data protection laws.

D. Data Analysis Procedures

Qualitative Analysis

The key focus of the qualitative component was content analysis, which is the methodical evaluation and interpretation of online conversation content. To comprehend the nature of WOM around the residential area of Pasir Pinji and Pasir Puteh, significant themes, trends, and patterns were identified in the data. A hybrid approach used in content analysis refers to the adoption of both inductive (thematic) and deductive (priori) techniques. Through deductive content analysis, a set of predefined categories was created and applied to the collected data. The structured framework provided by the deductive approach ensures that all the main, vital aspects of the information are included. In this case, the analysis of 40 reviews was categorized. Meanwhile, inductive content analysis emphasizes the identification and classification of themes in the data, leveraging the data itself to provide new insights. This method, characterized by its flexibility, can enrich the analysis by allowing for the exploration and inclusion of new themes that were not previously apparent or considered. In contrast to the

deductive approach, which begins with preset categories, the inductive technique examines data without the need for predetermined notions.

Quantitative Analysis

This analysis involves text mining techniques that were employed to analyze the large volume of text from various online platforms to extract relevant information. Within the WOM data set, the frequency distribution of a variety of types of issues was quantified to determine the prevalence of each issue theme. The percentage (%) of each theme issue relative to the total number of issues (N) was calculated. Subsequently, the next analysis involved the analysis of demographic data from residents, including gender (male or female), age ($27 \leq x \leq 75$), and location (Pasir Pinji or Pasir Puteh). The gathered data were subjected to statistical methods, to determine noteworthy distribution patterns for each demographic data. The characteristics of the population, such as mean age, most predominant gender, and geographic distribution were all analyzed using descriptive statistics. Following this, an inferential statistic, specifically a chi-square test of independence, was performed to analyze the relationships between age, gender, and locations with diverse identified issue themes. According to the assumption of independence between the various variables, the expected frequencies were calculated. Meanwhile, the chi-square test statistic was then computed by applying equation (1). To ascertain if there was a significant correlation between the variables, the p-value was determined. In this test, the results were evaluated using a selected significance level of 0.05, where a significant relationship is indicated by $p < 0.05$.

$$X^2 = \frac{(O_{11} - E_{11})^2}{E_{11}} + \frac{(O_{12} - E_{12})^2}{E_{12}} + \cdots + \frac{(O_{rc} - E_{rc})^2}{E_{rc}}$$

$$X^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \qquad (1)$$

Where X^2 denotes the chi-square test statistic, *r* is the total number of rows, *c* is the total number of columns present in the contingency table, O_{ij} signifies the observed frequency for each category, and E_{ij} represents the expected frequency for each category under the null hypothesis, assuming independence between the variables.

III. RESULTS AND DISCUSSION

The content analysis and distribution patterns of WOM at ADUN Pasir Pinji Community Service Center were successfully analyzed using both qualitative and quantitative approaches. This research was performed shortly after the Pakatan Harapan party emerged victorious in Malaysia's 15th General Election (GE15) in November 2022. In the wake of the significant political event, the timing of the study is indeed critical as it offers an entirely fresh perspective on the public's perceptions, concerns, and sentiments. Evaluating the initial responses and expectations of the citizens, which the election result could have impacted, was made achievable by conducting the study in the aftermath of the election. Such a timeframe ensures that the data gathered is relevant and reliable, and provides an accurate representation of the community's views towards the prevailing political climate at that time.

Throughout the analyses, a sample size of 40 was collected in this study. Despite the brief period of roughly 3 weeks, the present research managed to gather 40 samples of WOM, which suggests that there was an overwhelming response from the community, reporting various issues each day. This small sample size is sufficient to identify notable trends or patterns besides effectiveness because this finding typically focuses on a specific population, namely the population from Pasir Pinji and Pasir Puteh only. Additionally, a smaller sample can generate more comprehensive and rich information that highlights key topics, issues, or themes in the population under study.

A. Nature of WOM Based on Issue Themes

Significant outcomes about the online content of WOM were assessed through the content analysis. The examination of online conversations and social media posts, particularly on the Ipoh Timor WhatsApp, identified three major distinct issue themes: road potholes, clogged drainage, and illegal waste management according to deductive content analysis. Findings demonstrated that these categories are considered the most prevalent concerns and issues brought up by residents of Pasir Pinji and Pasir Puteh. Another two issue themes, domestic burning and improper disposal of deceased animals were further identified by inductive content analysis. The frequency of every issue theme was noted from highest to lowest and depicted in Table 1.
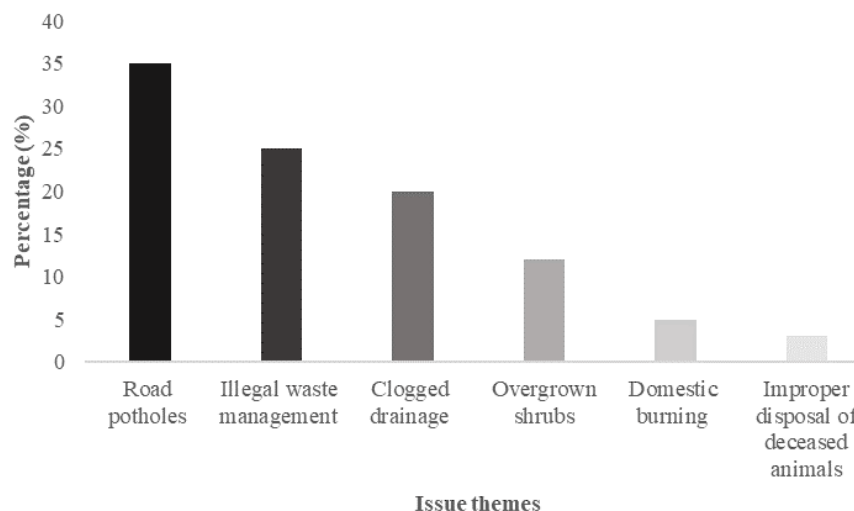
TABLE 1: NATURE AND FREQUENCY OF WOM.

Issue theme	Frequency
Road potholes	14
Illegal waste management	10
Clogged drainage	8
Overgrown shrubs	5
Domestic burning	2
Improper disposal of deceased animals	1
	N = 40

Figure 2 illustrates the percentages accounted for by each respective issue theme. The results display varying levels of occurrence and concern associated with different issue themes among residents living in Pasir Pinji and Pasir Puteh. The most common issue, representing 35% of all cases reported, turned out to be road potholes. This may be attributed to inadequate infrastructure maintenance, especially in rural areas. Moreover, the greater volume of such reports could be due to factors such as easy accessibility and user-friendliness in reporting mechanisms regarding road potholes through online media like WhatsApp, as opposed to other issues. Illegal waste management, which contributed to 25% of the cases, trailed closely behind. This second high percentage might have resulted from ineffective waste management practices and a lack of access to waste disposal facilities in these rural sites.

In comparison to waste management issues, clogged drainage problems were observed in 20% of cases, indicating considerable but marginally lower concern. Drainage systems, much like waste management issues, need to be maintained regularly. Usually, clogging and obstructions are the result of substandard maintenance, and this problem may be widespread in areas with insufficient infrastructure upkeep. However, unlike waste management issues, the less concerning matter of clogged drainage is because it may not have the same tangible effect on the residents in day-to-day living or be as apparent right away. Furthermore, locals would perceive the waste dumping and management problem to have a more immediate effect on their surroundings and the well-being of the community, leading to a higher number of reports.

A modest degree of attention was indicated by the 12% of cases where overgrown shrubs were a concern for residents. Although this issue does not exhibit as high a priority as other problems, the severely overgrown bushes reflect residents' insatiable need to ensure a secure and well-maintained environment. Regardless, overgrown shrubs can potentially pose safety hazards, such as becoming hiding places for unwanted pests or creating fire dangers and related risks. Based on the observations, domestic burning and improper disposal of deceased animals were classified as less prevalent problems, constituting 5% and 3% of the occurrences, respectively. Overall, these percentages shed light on the community's top priorities for resource allocation and improvement.

FIGURE 2: DISTRIBUTION OF ONLINE WOM ISSUE THEME BY PERCENTAGE (%) IN PASIR PINJI AND PASIR PUTEH.

For the classified issue themes, government policies related to infrastructure development, waste management, and environmental protection was among the frequent topics of discussion among the residents. In light of these policies, residents were actively engaged in WOM by expressing their experiences and concerns to ensure that policies corresponded to the expectations as well as the demands of the community at large. On top of that, residents often share suggestions and personal thoughts on how the community issues are addressed, as well as on the responsiveness of local political leaders to residents' necessities. This underscores the influence of politics and the impact of WOM in shaping community perceptions, public opinion, and decision-making procedures.

B. Demographic Analysis

Across different demographic categories, namely age, gender, and locations, an insight into the data composition of the sample and their influence on WOM activities was achieved through quantitative analysis using descriptive statistics. In terms of age distribution among residents, yielded a median age of 32, with approximately 50% of the residents falling within the age range of 31 to 56. Figure 3(a) demonstrates a box plot highlighting the age distribution and its central tendency. Overall, the age distribution exhibited a slight right-skewed pattern, with most studied populations concentrated towards the lower end of the age spectrum. This implies that younger residents are typically more inclined to be involved in WOM, as they may be more actively engaged in social media sites. Despite that, there is also a vast sample with non-specified age due to residents' intentions not to declare their age. This decision might arise from a desire for confidentiality or a preference to remain anonymous while raising issues with the ADUN Pasir Pinji Community Service Center. Nevertheless, the age variation in the available data suggested that the center serves citizens of different ages.

The gender distribution analysis as shown in Figure 3(b) revealed a substantial fraction of 48% of responses engaged in WOM were left unspecified similar to the age distribution analysis, making up the majority of cases fitting into this category. This could be clarified by the understanding that residents prefer not to disclose their names, rendering their gender unidentified. In essence, this underscores the residents' emphasis on privacy protection, particularly when engaging in community feedback mechanisms, and therefore their reluctance to reveal their gender. Among the samples where gender specification is provided, there was a higher percentage of males (37%) over females (15%). In this regard, several factors, including disparities in how issues are perceived during reporting, accessibility to means of communication, or even cultural norms surrounding civic involvement, may contribute to the more common nature of reports from males compared to females. Overall, this gender distribution analysis showcased the various ways residents engage with the ADUN Pasir Pinji Community Service Center, stressing the significance of offering adaptable and anonymous reporting choices based on their respective preferences. Regardless of age or gender, this center prioritizes serving the residents. Keeping this in view, many individuals report concerns anonymously, laying a greater value on the settlement of communal issues than on their identities.

The key regions served by the ADUN Pasir Pinji Community Service Center are indicated in Figure 3(c), which portrays the analysis of location distribution. The findings revealed that 77% of residents engaged in WOM were from Pasir Pinji, whereas Pasir Puteh only accounted for the remaining 23%. The variance in distribution indicates that in comparison to Pasir Puteh, the concerns handled by the community service center are far more frequent or more well delivered in Pasir Pinji. The higher degree of community involvement, as indicated by a high rate of participation from Pasir Pinji, could be attributed to various factors, such as proactivity, increased awareness of their surroundings, closer proximity or distance between Pasir Pinji residents and the center, as well as a stronger sense of community or more established ties to the center. On the contrary, Pasir Puteh, which has an overall lower reported issue rate, could be due to local complaints being less common in that region, as they may have better-maintained infrastructure, thus requiring less community service center intervention. Another contributing factor could be the reduced population in Pasir Puteh compared to Pasir Pinji, which means fewer problems altogether. In general, the community engagement culture and local concerns may vary from one area to another.

Based on the demographic analyses, within a community, the distribution composition of age, gender, and location can have profound implications on the political landscape. These demographic studies can assist political leaders to better target their policies and messages to various population segments per their social strata and specific demands. An understanding of age distribution can help develop effective strategies that cater to and resonate with a wider range of age groups to leverage WOM, knowledge of gender distribution can guide the establishment of policy that aims to advance gender equality and women's empowerment. In addition to that, recognizing the location distribution can aid in decision-making on which area

ought to be prioritized more and given more resources. By taking these demographic aspects into account, political leaders can ensure that their support and efforts are egalitarian, leading to more effective and efficient political actions aimed at addressing local issues and meeting the diverse needs of society.
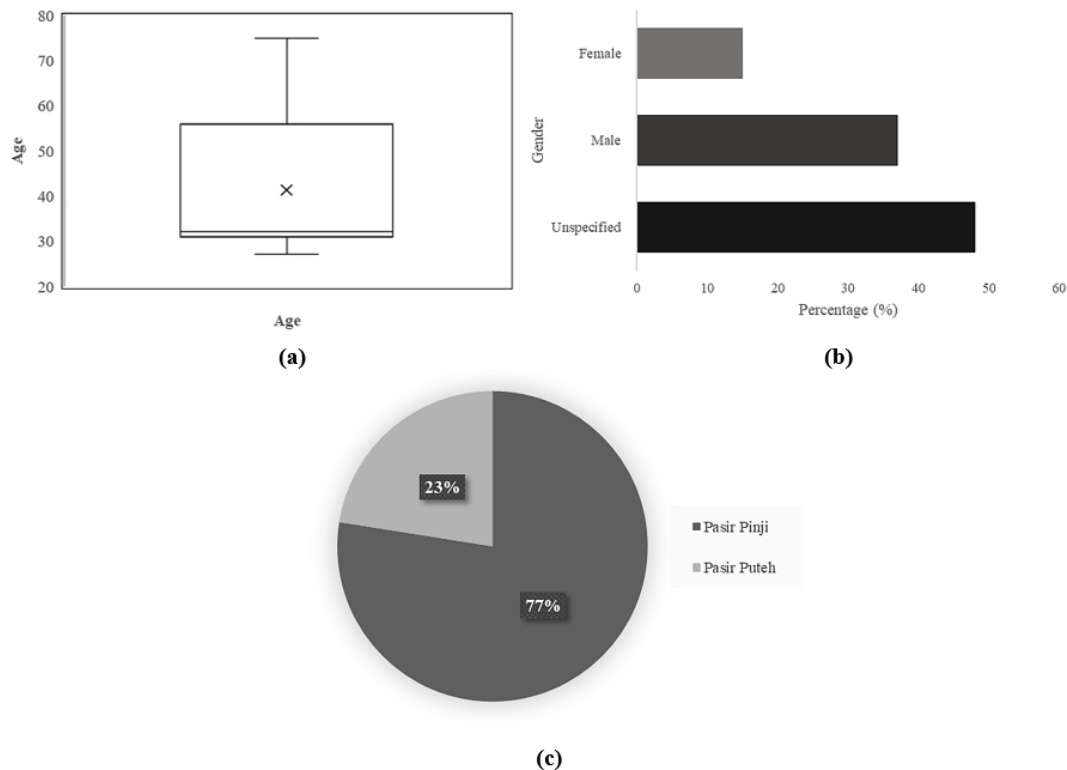

FIGURE 3; DEMOGRAPHIC DISTRIBUTION OF RESIDENTS FOR (A) AGE, (B) GENDER, AND (C) LOCATION.

C. Association Analysis of Demographic Parameters and Issue Themes

The chi-square test of independence was employed in data analysis to determine whether the studied variables are independent or associated with one another. In the present study, the test was used to examine the potential correlation between the various demographic distributions (age, gender, and location) and the types of reported issue themes. The findings imply that there was no statistically significant relationship between age and the issue themes being reported since the p-value of 0.240 obtained exceeds the significance threshold of 0.05. Given this lack of correlation, it may be inferred that residents in different age groups reported various issue themes with equal likelihood. Hence, age was not an influential factor in the specific types of problems that were reported. However, a significant relationship was observed between gender and the issue themes raised by residents. This association is indicated by the p-value ($p = 0.002 < 0.05$), which suggests that gender may influence the tendency of residents to report certain issues. The location also appeared to have a significant relationship with the issue themes. The p-value for this association, 0.022, is found lesser than the significance level of 0.05. This result typically means that residents from varying locations likely report distinct types of issues. By applying the chi-square test, the overall patterns and relationships between variables can be uncovered.

TABLE 2; CHI-SQUARE TEST OF INDEPENDENCE RESULTS ON THE ASSOCIATION BETWEEN DIFFERENT DEMOGRAPHIC DISTRIBUTIONS AND VARIOUS ISSUE THEMES.

X^2 Tests

Variables	X^2	df	p-value
Age	51.31	45	0.240
Gender	28.07	10	0.002
Location	13.11	5	0.022
N	40		

Essentially, this chi-square analysis emphasizes the importance of considering various demographic variables into factoring when resolving regional problems and formulating targeted initiatives to enhance community welfare and promote a more impactful WOM. For several reasons, in politics, it is essential to comprehend how demographic indicators and issue themes are related in understanding resident WOM, Potentially, it can assist with identifying which demographic groups are more compelled to participate in WOM about particular issues of concern. This analysis may be useful for political leaders to understand the needs and issues across different residential demographic groupings, ensuring that inclusivity is practiced at all times. For example, to increase general community satisfaction, politicians may choose to focus their efforts on tackling issues that a certain gender group is much more inclined to report. Another instance: if road potholes are a persistent concern in a particular region, prioritizing road maintenance in that residential area can help reduce the problem's prevalence, thereby diminishing WOM about this specific issue. Moreover, it supports more equitable political decision-making by recognizing any inequities and taking corrective actions in the provision of services and resources by ADUN Pasir Pinji to preserve fairness in service delivery.

IV. CONCLUSION

The distribution patterns and content analysis of online WOM reported by residents to the ADUN Community Service Center in Pasir Pinji, Ipoh, Perak was performed and understood. Through the qualitative and quantitative studies, the major issues discovered in this project are road potholes, illegal waste management, and clogged drainage. Among the problems, road potholes (35%) emerged as the most frequently reported residential issue via WOM. Meanwhile, the chi-square test demonstrated a significant relationship between gender, location, and the issue themes that were reported with a p-value below the significance level ($p < 0.05$), indicating the influence of these demographic elements on varieties of priorities and concerns communities have. Overall, local issues tend to be more common in Pasir Pinji, hence the resulting increased WOM and identification of the region as more vulnerable. In addition to shedding light on the critical community concerns, an insight gained from the analyses has utterly embodied the mission of HARAPAN, which is "to serve, to lead, with actions."

ACKNOWLEDGMENT

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