Determinants on the adoption of Takaful among secondary school teachers in Malaysia (a case study in Kedah) ⊘

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Abstract. Malaysia's Takaful industry is the second largest outside the Arab region. Takaful is one of Malaysia's Islamic finance industry sectors. Takaful has experienced remarkable growth since its inception in the 1980s. However, penetration of Takaful among Malaysian consumers remains modest despite the industry's expansion. Several previous studies have examined the extent of Takaful penetration among public sector employees. Thus, the purpose of the present study is to investigate the adoption of Takaful, with a focus on secondary school teachers as respondents. This paper aims to investigate the factors influencing the adoption of Takaful among secondary school teachers in Sungai Petani, Kedah. The focus of the study will be on a number of determinants of Takaful adoption, including word-of-mouth (WOM) promotion, awareness and knowledge of Takaful, the roles of mass media, and the performance of Takaful operators. Stratified sampling will be utilized to acquire respondents progressively. This study collected primary data from 120 secondary school teachers in Sungai Petani, Kedah, via questionnaires that were distributed to them. The data were analyzed by multiple linear regression method using SPSS 23.0. This study's findings point out that all hypotheses were substantiated. Furthermore, promotion by word-of-mouth and the roles of mass media have the greatest impact on the level of Takaful adoption among secondary school teachers.

INTRODUCTION

The term Takaful originates from the Arabic language and is derived from the verb "kafala," which connotes the act of ensuring or catering to the requirements of an individual. Moreover, Takaful can be characterized as a cooperative pact between a minimum of two entities who consent to provide support to one another in the event of a loss. Takaful can be classified into two distinct categories, namely general and family. General Takaful, commonly known as general insurance in conventional insurance, is a form of protection offered to participants against various types of losses, including but not limited to accidents, fire, earthquake, and flood. The primary objective of general Takaful is to provide short-term protection to the participants. Family Takaful, also known as life insurance, provides extended financial security and protection to policyholders and their dependents in the event of death, critical illness, or disability. It entails long-term savings and protections [1].

According to a report published in [2], there was a growth of 7.5% and 5.9% in family and general takaful respectively, as compared to a growth of 5.2% in conventional life insurance and a contraction of 1.8% in conventional general insurance during the first half of 2017. BIMB Holdings Berhad is a Malaysian company that offers Takaful services. According to its financial report, the company's net profit for the fourth quarter of 2019 increased by 12.07%

from RM 161.38 million to RM 180.86 million compared to the same period in the previous year. This growth can be attributed to the improved performance of its Islamic banking and Takaful operations [3]. The Malaysian Takaful Association (MTA) is widely recognized as a key point of reference for all Takaful companies operating within Malaysia. MTA comprises 18 member companies, including AIA Public Takaful, Etiqa Takaful, and Prudential BSN Takaful. According to Encik Muhammad Fikri Mohamad Rawi, the chairman of MTA, the Takaful industry demonstrated excellent performance in 2018, despite the unstable market conditions encountered by member companies operating in the family and general Takaful business. According to reports, the aggregate new business contributions of family Takaful increased from RM4.35 billion in 2017 to RM4.91 billion in 2018 [4]. According to [5], there was an increase in the total business gross contributions for general Takaful from RM 3.83b in 2021 to RM 4.64b in 2022.

This research presents a study on the determinants of secondary school teachers adopting Takaful services. The primary goal of this study is to examine the key factors that exert the greatest influence on the level of Takaful adoption. This will enable teachers to acquire knowledge about Takaful offerings that provide coverage for common critical illnesses, such as hypertension. Additionally, it will facilitate the dissemination of necessary information by Takaful operators to teachers, thereby streamlining their tasks. The entirety of this article is structured as follows: the literature review, methodology, results of analysis, and finally the conclusion that concludes the paper and proposes future recommendations.

LITERATURE REVIEW

Level of Takaful Adoption Among Secondary School Teachers

Prior researchers stated that employees in the government sector possess a moderate level of comprehension regarding Takaful [6]. The findings indicate that a mere 7 individuals employed in the governmental sector, out of a total of 34 participants, adopted Takaful. [7] conducted a study that found that the intention of public sector officers in northern Malaysia was significantly influenced by health awareness rather than knowledge. Furthermore, research conducted by [8] demonstrated a moderate positive correlation between customers' perception of Takaful operators' performance and their intention to utilize Takaful medical cards. The study was conducted among public officers situated in Kedah, Malaysia. These previous studies conclude that government employees in Malaysia have limited knowledge of Takaful and that their adoption rate is between low and moderate. This study aims to determine the level of takaful adoption specifically among secondary school teachers.

Determinants of Takaful Adoption among Secondary School Teachers

Promotion by Word-of-Mouth (WOM)

WOM is one of the essential components of marketing tools used to build strong consumer relationships and gain a competitive edge over rivals. If a company employs WOM effectively, it can also generate a respectable brand identity and brand image [9]. Within the framework of the Takaful brand, it is the Takaful agents who exert significant influence on the purchasing decisions of customers. By applying the WOM strategies to influence and attract a larger customer base, the Takaful brand has the potential to establish a strong reputation and cultivate a positive brand image among consumers. Therefore, within the Takaful industry, the referents of WOM communication are the agents and employers of Takaful [10]. Moreover, the dissemination of (WOM) to potential customers is a crucial function performed by Takaful agents and employers [11]. It is the responsibility of Takaful agents to possess comprehensive knowledge and proficient skills in promoting Takaful products, with the aim of increasing the customer base through WOM marketing. The implementation of Islamic marketing is of utmost importance for Takaful agents in order to effectively engage with the public [12].

Awareness and Knowledge of Takaful

The development of awareness and knowledge is crucial in augmenting the market share of Islamic finance and Takaful. Islamic financial institutions have a notable impact on the advancement and execution of the Takaful concept on a global scale [13]. Prior research has revealed customer awareness and knowledge statistics for Takaful services. According to [14], a significant majority of the participants (80%) were cognizant of the existence of Takaful or

insurance as a means of protecting their organizations from financial losses in the event of unforeseen circumstances. The study gathered 246 responses from diverse institutional types in Malaysia. [15] reported that only 378 of the 503 respondents (Malaysian consumers) are aware of Takaful, while 125 respondents are unaware.

Roles of mass media

Education, culture, and societal opinion have all been affected by the influence of mass media on daily life. In the context of education, [16] discovered that students have a relationship with media tools. In addition, it is mentioned that students apply the knowledge they've acquired from mass media tools to various aspects of their lives. Based on a cultural perspective, media and culture are intertwined; levels of cultural comprehension have an effect on media content, while media 14 platforms and content influence cultural and daily practice [17].

The influence of mass media on the determinants of Takaful adoption within the financial industry is a significant factor that cannot be disregarded. The consumer industry utilizes mass media as a means of disseminating information regarding their products and services through advertising [18]. Takaful agents have the option to use mass media as a means of disseminating comprehensive information to prospective clients. The utilization of advertising strategies can effectively deliver information regarding a company's products to the general public, thereby increasing awareness and knowledge of said products. Upon exposure to advertising via mass media, people may become aware of Takaful and develop an interest in acquiring Takaful products. This strategy aligns with the practices of school teachers who are occupied with exploring insurance services. Takaful agents may employ advertising tactics to enhance the appeal of Takaful products to school teachers and increase their uptake. It is imperative to spread the advertising content through targeted social media platforms or websites that cater to the needs of school teachers.

Performance of Takaful Operators

Takaful operators must maintain vigilance regarding the service provided to their clients, as it will impact their performance. According to [19], the Governor of Bank Negara Malaysia reported that more than fifty percent of insurance and Takaful complaints received in 2017 involved misspellings or misrepresentations. It is imperative for Takaful operators to react quickly to customer complaints as a means of mitigating negative experiences and enhancing customer satisfaction. Subsequently, clients have the potential to share their experiences with peers or intimates, thereby resulting in unfavourable outcomes for the Takaful service providers implicated, unless a prompt and effective resolution of the issue is undertaken. Recently, Takaful Malaysia operators have conducted a Corporate Social Responsibility (CSR) program called Takaful myJalinan CSR program [20]. The operator has launched two more subs under myJalinan CSR program namely Takaful myJalinan Kasih and Takaful myJalinan Ilmu. Takaful myJalinan Kasih provides financial aid to individuals in need, with a particular focus on supporting orphans and single mothers. Takaful myJalinan Ilmu is reported to have a positive impact on the teaching profession by enhancing students' academic performance, as per Takaful Malaysia.

Hypotheses of the Variables

H1: There is a significant relationship between the promotion of word-of-mouth and Takaful adoption among secondary school teachers.
H2: There is a significant relationship between the awareness and knowledge of Takaful and Takaful adoption among secondary school teachers.
H3: There is a significant relationship between mass media and Takaful adoption among secondary school teachers.
H4: There is a significant relationship between the performance of Takaful operators and Takaful adoption among secondary school teachers.

METHODOLOGY

Linear regression is a statistical method employed to ascertain the value of a dependent variable by considering the value of an independent variable. The statistical technique of linear regression is employed to establish a relationship between two variables. The process of predicting a dependent variable by utilizing one or multiple independent variables is commonly referred to as a forecasting strategy. Among all statistical methods, linear regression analysis is the most widely used. The following are the assumptions underlying the multiple linear

regression model [21]. The population mean of y within the level of the patient's population was defined by the x's following a linear and additive pattern.

   i.   The y observations were assumed to be statistically independent.

  ii.   The standard deviation of y within particular x-strata was constant over all values of x.

 iii.   The distribution of y within x-strata was normal.

Assumptions of multiple linear regression as (i), (ii) and (iii) as stated above should be fulfilled prior to analyzing the data. This study applied three assumptions: constant variance, normality and multicollinearity. When these conditions are met, the results will be reliable.

The variance of the errors is uniform, whereas the residuals are randomly distributed around zero. For instance, if the residuals vary proportionally to the fitted values in a pattern, the variance of the errors may not be constant. The residual analysis was utilized to ensure that the data were normally distributed. The plot used to check is residual versus predicted value. Additionally, there are additional plots that can be used to determine the normality of data, including the quartile-quartile plot (QQ-plot) or the probability-probability plot (PP-plot). If the plot does not show any pattern or shape such as a U-shape or S-shape, and instead appears randomly scattered, the data are normally distributed.

A test for multicollinearity should be performed on the data to avoid dependence between independent variables. Variation inflation factor (VIF) is used as the evaluation tool. If the VIF exceeds 10, there is a major multicollinearity problem. The multicollinearity test is successful if the VIF is less than 10.

Multiple linear regression includes a number of predictor variables, including first order with two predictor variables and first order with more than two variables. The multiple linear regression model is as follows [22]:

$$Y = \beta_0 + \beta_1 X_{i1} + \cdots \beta_j X_{ij} + \varepsilon \tag{1}$$

where: $\beta_o, \beta_{1,...,} \beta_j$ are constants, $X_{i1,...,} X_{ij}$ are unknown parameters/ independent variables, and $i = 1,...,n$.

In matrix terms, the following matrices should be defined:

$$Y = X\beta + \varepsilon \tag{2}$$

where

$$Y = \begin{bmatrix} Y1 \\ Y2 \\ \cdot \\ \vdots \\ Yn \end{bmatrix}, \; X = \begin{bmatrix} 1 & X11 & X12 \\ 1 & X21 & X22 \\ \vdots & \vdots & \vdots \\ 1 & Xn1 & Xn2 \end{bmatrix}, \beta = \begin{bmatrix} \beta0 \\ \beta1 \\ \cdot \\ \vdots \\ \beta n \end{bmatrix}, \; \varepsilon = \begin{bmatrix} \varepsilon0 \\ \varepsilon1 \\ \vdots \\ \varepsilon n \end{bmatrix}$$

Y is a vector of responses, β is a vector of constants, and X is matrix parameters ε is a vector of independent normal random variables.

Sums of regression (SSR), sums of error (SSE), and sums of total (SST) are the three sums of square and mean square applied in variance analysis. The sums of squares for variance analysis in matrix terms are as follows:

$$SSR = bX'Y - \left(\frac{1}{n}\right) Y'JY \tag{3}$$

$$SSE = (Y - Xb)'(Y - Xb) \tag{4}$$

$$SST = Y'Y - \left(\frac{1}{n}\right) Y'JY \tag{5}$$

In addition, the degree of freedom for the sum of squares was unique. The degrees of freedom for SSR were p-1, indicating that p was the number of predictor variables or parameters. n-p degrees of freedom are associated with SSE, where n refers to the number of respondents in the study. As is usual, SST is correlated with n- 1 degrees of freedom. Equations 6 and 7 represent the analysis of variance (ANOVA) along with mean square regression (MSR) and mean square error (MSE). MSE is a risk function that corresponds to the expected square error or quadratic loss value. MSE computes the average of the squared "errors" Error is the difference between the implied value of the estimator and the quantity being estimated. The difference occurs as a result of randomness or because the estimator disregards

information that could result in a more precise estimate. Table 1 provides an overview of the analysis of variance (ANOVA). The equations are as follows:

$$\text{MSR} = \frac{SSR}{p-1} \tag{6}$$

$$\text{MSE} = \frac{SSE}{n-p} \tag{7}$$

TABLE 1. Summary of ANOVA.

Source of Variation	SS	df	MS
Regression	$SSR = bX'Y - \left(\frac{1}{n}\right)Y'JY$	p-1	$MSR = \dfrac{SSR}{p-1}$
Error	$SSE = (Y - Xb)'(Y - Xb)$	n-p	$MSE = \dfrac{SSE}{n-p}$
Total	$SST = Y'Y - \left(\frac{1}{n}\right)Y'JY$	n-1	

RESULTS

Analysis of Multiple Linear Regression Method

The variance of residuals

The variance of residuals was computed using the SPSS software. A scatter plot was utilized to ascertain the condition of residual variance. According to the data presented in Fig. (1), the points seemed to have no patterns and to be tendency scattered. The variance of residuals of this research is verified.
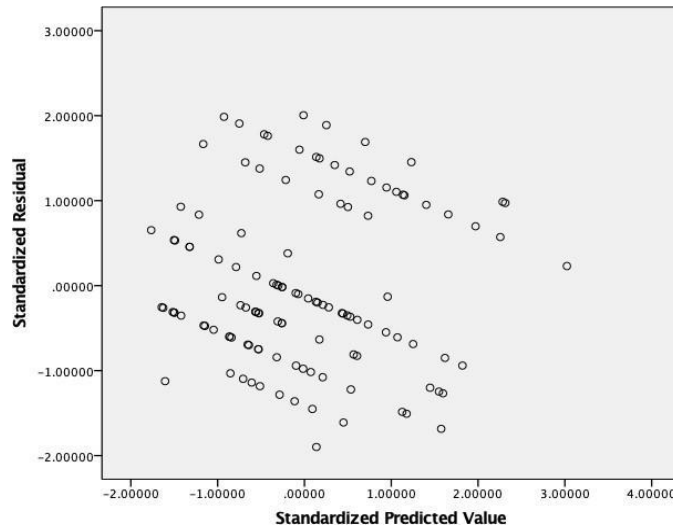

FIGURE 1. Scatter plot of variance of the residuals

The residual normality distributed

In multiple linear regression, the assumption of normality is one of the assumptions that must be determined by the researcher. To evaluate for normality, Kolmogorov-Smirnov was applied. The Kolmogorov-Smirnov test indicates that the p-value value is greater than 0.05, which in this case was 0.061. The measure determines that the study's data are normal. Therefore, the research's residual normality distribution is also verified.

TABLE 2. Kolmogorov-Smirnov result.

Information	Unstandardized Residual
N-item	120
Mean	0.000
Standard Deviation	0.453
Absolute	0.120
Positive	0.120
Negative	-0.073
Kolmogorov-Smirnov Z	1.320
Sig. (2-tailed) (p-value)	0.061

Multicollinearity checking

Multicollinearity in research refers to the high correlation between independent variables and dependent variables. To test for multicollinearity, the tolerance must be less than 0.99, and the VIF must be less than 10. According to Table 3, both the study's tolerance and VIF value are less than 0.99 and 10, respectively. Thus, multicollinearity checking has been verified.

TABLE 3. Multicollinearity diagnostics.

Model	Tolerance	VIF	Sigma value
Gender	1.067	0.937	0.690
Age	1.079	0.927	0.166
Ethnic	1.077	0.929	0.088
School	1.046	0.956	0.543
Ord-of-mouth	2.536	0.394	0.273
Awareness	3.305	0.303	0.303
Mass media	2.310	0.433	0.226
Performance	2.703	0.370	0.037

Multiple linear regression

The study has met the necessary criteria to perform multiple linear regression analysis. Multiple linear regression was used in the research to forecast the dependent value based on the independent variables. The table presented indicates that mass media has the greatest impact on the degree of Takaful adoption, as evidenced by its highest variable coefficient value (β) of 0.119.

TABLE 4. Multiple linear regression coefficients.

Model	β	Sigma value
Word-of-mouth	0.065	0.543
Awareness	-0.234	0.067
Mass media	0.119	0.293
Performance	-0.197	0.064

Analysis of Variance (ANOVA) for Regression

ANOVA is used to determine whether there are statistically significant differences between the means of the independent variables and to test the validity of regression model based on significant value. Based on the preceding result, the value of the mean square error is 0.22, indicating that the model error is small and that predictions will be more precise and the model of MLR is valid by the value of significant (p-value) is lower than 0.05 which was 0.005.

TABLE 5. Analysis of variance or ANOVA for regression.

Model	Sum of squares	Degree of freedom (df)	Mean square	F	P-value
Regression	5.170	8	0.646	2.938	0.005

Residual	24.412	111	0.220	
Total	29.584	119		

CONCLUSION

The majority of the participants concur that word-of-mouth promotion is a contributing factor to the rising number of Takaful customers. [23] assert that promotion through word-of-mouth is a highly effective means of influencing consumer behavior. This is due to the fact that individuals tend to place greater trust in the information received directly from their social network, particularly friends and acquaintances. The findings of this study provide empirical support for the research conducted by 24, which posited that Takaful agents and employers are instrumental in disseminating word-of-mouth information to prospective clients and maintaining customer loyalty.

Most respondents acknowledged that Takaful is characterized by the principles of collective accountability and reciprocal protection and that Takaful products adhere to the tenets of Shariah. This reflects a heightened awareness and understanding of Takaful. Both of these assertions are commonly recognized as fundamental tenets of Takaful. It is evident that the participants possess a comprehensive understanding and fundamental knowledge regarding Takaful. As previously mentioned, individuals with higher levels of education, such as those holding diplomas, degrees, and PhDs, tend to exhibit greater awareness of the concept of Takaful and the importance of securing personal protection through this means. The assertion is corroborated by the findings of [25].

Subsequently, a majority of the participants agree that mass media serves as a readily available channel for acquiring information pertaining to Takaful. The findings indicate that Takaful agents have the potential to utilize mass media as a means of disseminating information and enhancing public awareness regarding the significance and advantages of Takaful. The majority of respondents concur that the fidelity of customers is contingent upon the contentment derived from the service rendered by Takaful operators, with regard to their performance.

The findings corroborated the statement proposed by [26] that retaining current customers and providing superior service quality can lead to an increase in market share and profits for the organization. The majority of participants concur that the personality of Takaful operators has a significant impact on customers' decision to engage in Takaful. The findings indicate that the personality traits of Takaful operators play a crucial role in delivering satisfactory customer experiences with regard to Takaful services.

The research is limited to four factors: word-of-mouth promotion, awareness and knowledge of Takaful, the functions of mass media, and the performance of Takaful operators. It is suggested that future researchers expand the questionnaire's pertinent questions to include more variables. The next suggestion is to extend the time to collect data from respondents in order to obtain a sufficient number of respondents based on sample sizes.

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