A Descriptive Study Of Demographic Factors And *Takaful* Subscription In Kota Kinabalu Sabah Based On The Theory Of Planned Behaviour

Mohd Rozie Mohd Damit¹, Rozita @ Uji Binti Mohammed²

Abstract

This study investigates the multifaceted relationship between demographic attributes and the preferences for Takaful Protection within the diverse workforce of Kota Kinabalu City. Employing the Theory of Planned Behaviour (TPB) as its foundational framework, the research explores the collective impact of gender, age, religious affiliation, marital status, education, occupation, income levels, and work experience on individuals' decisions regarding Takaful Subscription. Using a cross-sectional research design and structured questionnaires administered to 102 respondents, the study reveals compelling insights. It demonstrates that age, marital status, education level, occupation background, income range, and work experience significantly influence Takaful choices, whereas gender and religious affiliation have minimal impact. Additionally, the study identifies the most preferred Takaful products and highlights barriers to participation, shedding light on a generally low Takaful Subscription within the surveyed population. The research applies descriptive statistical analysis, crosstabulations, and chi-square tests as analytical techniques to unravel the intricate interplay of these demographic factors within the TPB framework, providing nuanced insights into the dynamics of Takaful decision-making among a diverse workforce. The findings of this study underscore the complex interplay of demographic factors in shaping Takaful participation within a diverse workforce in Kota Kinabalu City. While gender appears to have minimal influence, age, marital status, educational background, occupation background, income range, and work experience are the key determinants of insurance choices.

Keywords: Takaful Participation; Demographic Factors; Theory of Planned Behaviour

¹ Candidate of Doctor of Business Administration, Universiti Teknologi Mara, Kota Kinabalu, Sabah, Malaysia

² Associate Professor, Universiti Teknologi Mara, Kota Kinabalu, Sabah, Malaysia

1. Introduction

The changing nature of work and economic conditions requires a thorough analysis of the complex relationship between demographic factors and *Takaful* trends among workers (Roberts et al., 2023; Sequeira et al., 2023; Tran et al., 2020). As organisations aim to develop inclusive and effective policies (Amarnath et al., 2019), and policymakers try to create relevant financial education programs (Kusairi et al., 2019; Mahdzan & Tabiani, 2013; Muhamad et al., 2021; Sabri et al., 2022), a detailed understanding of the factors influencing *Takaful* choices becomes essential. This paper intends to examine the demographic characteristics of a surveyed population and investigate their *Takaful* Subscription patterns, based on the well-known Theory of Planned Behaviour (Yakob et al., 2019).

1.1. Research Background

The financial behaviour of individuals is influenced by various factors, such as their demographic characteristics, personal values, and social norms (Kusairi et al., 2019; Muhamad et al., 2021; Sabri et al., 2022). Among these factors, the role of demographics in shaping *Takaful* preferences and choices is particularly relevant in the context of changing population structures and economic conditions (Yakob et al., 2019). Previous research has explored how different aspects of demographics, such as religion, education, and occupation, affect the demand for and participation in *Takaful* schemes (Nabila Khan et al., 2021; Yakob et al., 2019; Yazid et al., 2017). However, these studies have often focused on specific demographic groups or dimensions, without considering the interactions and synergies among them. Therefore, this study aims to fill this gap by conducting a comprehensive analysis of the joint effects of multiple demographic variables on *Takaful* Protection decisions among a diverse sample of individuals.

1.2. Research Problems, Gaps and Contributions

While existing literature has offered valuable insights into the individual determinants of *Takaful* Subscription, the nuanced interplay of demographics and their collective influence on *Takaful* preferences remains relatively unexplored (Areeba Khan et al., 2020; Bakar et al., 2018; Djafri et al., 2018; Sherif & Azlina Shaairi, 2013). This study addresses this gap by seeking to understand how various demographic factors intersect to shape *Takaful* Subscription patterns. By holistically examining the role of gender, age, religious affiliation, marital status, education, occupation, income levels, and length of service, this research aims to provide a comprehensive view of the intricate web of factors driving *Takaful* decisions (Anshika et al., 2021; Areeba Khan et al., 2020; Arifin & Yazid, 2018; Bakar et al., 2018; R. Hassan et al., 2021; Keat et al., 2020; Mahdzan & Peter Victorian, 2013; Raza et al., 2020; Sherif & Azlina Shaairi, 2013).

While prior studies have provided valuable insights into individual determinants of *Takaful* Subscription, the collective influence of multiple demographic dimensions within the TPB framework remains a less-explored area. This study's novel approach of simultaneously considering gender, age, religious affiliation, marital status, education, occupation, income levels, and length of service contributes to the broader literature by offering a comprehensive

view of the factors shaping *Takaful* Protection preferences. Moreover, this study extends the TPB model by incorporating subjective norms and perceived behavioural control as additional predictors of *Takaful* intention and behaviour. By doing so, this study addresses the limitations of previous research that have largely ignored the social and psychological aspects of *Takaful* decision-making. Furthermore, this study employs a mixed-methods design that combines quantitative and qualitative data to capture the complexity and diversity of *Takaful* attitudes and experiences among different demographic groups. This study also provides practical implications for *Takaful* providers and policymakers by identifying the key drivers and barriers to *Takaful* uptake and suggesting effective strategies to enhance *Takaful* awareness and accessibility. This study thus fills an important gap in the literature and contributes to the advancement of knowledge on *Takaful* Subscriptions in developing countries.

1.3. Research Objectives

This study aims to explore the following research objectives:

- i. To examine the effect of the demographic profile of the respondents and their *Takaful* Protection preferences.
- ii. To investigate the most influential demographic variables that contribute towards the *Takaful* Subscription patterns of the respondents.

1.4. Significance of Study

This study contributes to the existing body of knowledge by offering a holistic exploration of the intersection between demographics and *Takaful* preferences. By comprehensively analysing the collective impact of multiple demographic variables, such as age, gender, income, education, and marital status, this research presents insights that can guide organizations in designing tailored *Takaful* offerings and financial education initiatives. These initiatives can help address the diverse needs and preferences of different segments of the population, as well as the gaps and challenges in their financial literacy and security. As organizations strive for inclusivity and policymakers aim to enhance financial literacy, these insights assume paramount importance in ensuring well-informed and financially secure workforces. This study also discusses the implications and limitations of the research findings and suggests directions for future research in this domain.

2. Literature Review

The literature review critically examines existing studies that delve into the complex relationship between demographics, *Takaful* behaviour, and financial decision-making. Previous research has laid the foundation for understanding how individual characteristics influence various aspects of financial behaviour. This section aims to synthesize key findings from relevant literature, shedding light on the theoretical underpinnings that guide this study's exploration.

2.1. Demographics and Financial Behaviour

Research by Lee et al. (2017) underscores the impact of demographic factors on financial literacy, indicating that education and occupation are pivotal determinants of financial

management practices. Hogarth et al., (2003) highlight that demographics significantly influence financial knowledge and behaviour, emphasizing the interconnectedness of individual attributes and financial decision-making. These studies underscore the significance of considering multiple demographic dimensions to comprehensively grasp their collective influence on financial behaviour.

2.2. Religion and Takaful Subscription

The study by Hassan and Abbas (2020), Poan et al. (2022), and Rahman et al. (2018) delves into the influence of religiosity on *Takaful* demand, revealing that ethical and moral values rooted in religious beliefs impact *Takaful* decisions. This finding highlights the intricate interplay between cultural and religious factors with financial choices, underscoring the need to analyse *Takaful* preferences within diverse religious contexts.

2.3. Takaful Behaviour and Financial Decision-Making

Takaful behaviour is a crucial aspect of financial decision-making, as it reflects the individual's risk perception and preference, as well as their willingness to pay for protection against unforeseen events. According to Browne & Kim (1993), Takaful demand is influenced by various factors, such as income, wealth, risk aversion, price, and availability of Takaful products. Moreover, Takaful behaviour can also be affected by psychological factors, such as trust, confidence, and emotions (Brighetti et al., 2014; Seyedin et al., 2019). Therefore, understanding Takaful behaviour requires a multidisciplinary approach that considers both rational and irrational factors that shape financial choices.

2.4. Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) serves as the guiding theoretical framework for this study. Originating from Ajzen's work, TPB posits that individual behaviour is influenced by attitudes, subjective norms, and perceived behavioural control (Ajzen, 1991). In the context of Takaful, attitudes include individuals' evaluations of Takaful, considering its ethical alignment with Islamic principles and perceived benefits in managing financial risks. Subjective norms incorporate societal and religious influences, while perceived behavioural control includes factors like financial literacy and accessibility to Takaful products. By integrating demographics within TPB, this study extends the model, recognizing the collective influence of gender, age, religious affiliation, marital status, education, occupation, income, and length of service on Takaful decisions. This comprehensive approach unravels the nuanced interplay between personal beliefs, external influences, and perceived control, providing a holistic understanding of the multifaceted dynamics shaping Takaful Protection choices.

3. Research Methodology

This section outlines the research design, data collection methods, and analytical techniques employed to achieve the objectives of the study. A quantitative approach is adopted to gather demographic data and *Takaful* preferences from the surveyed population, facilitating a robust analysis of the collective impact of demographics on *Takaful* Protection choices.

3.1. Research Design

A cross-sectional research design is utilized to capture a snapshot of the surveyed population's demographics and *Takaful* Subscription patterns at a specific point in time. This design allows for the exploration of relationships between demographic variables and *Takaful* preferences within the context of the workforce in the Kota Kinabalu City Centre. According to (Creswell, 2003; Toledo-Pereyra, 2012), cross-sectional research designs are suitable for studies that aim to describe the current status of a phenomenon or to examine associations among variables.

3.2. Sample Size

The required sample size for the regression analysis was calculated using the method of "F tests - Linear multiple regression: Fixed model, R² increase" in G*Power software (Faul et al., 2009, 2013). This method estimates the minimum number of participants needed to achieve a specified level of statistical power, based on certain assumptions. The assumptions for this method included: an effect size (f²) of 0.15, indicating a medium effect of the predictors on the outcome variable; a significance level (α err prob) of 0.05, representing the risk of rejecting the null hypothesis when it is true; a statistical power (1- β err prob) of 0.80, representing the probability of detecting an effect when it exists; and degrees of freedom (df) of four in the numerator and 80 in the denominator, reflecting the number of predictors and the sample size in the regression model. According to these assumptions, the minimum sample size for the analysis was 85 participants. However, this study used a slightly larger sample of 102 participants who provided valid data for the analysis.

3.3. Data Collection

Data was collected through structured questionnaires administered to the surveyed population. The questionnaire was carefully designed to capture information on gender, age, religious affiliation, marital status, education, occupation, income levels, and length of service. Additionally, respondents are asked about their *Takaful* Protection status, the types of *Takaful* products they possess, and the reasons for not possessing Protection. The questionnaire is adapted from previous studies on *Takaful* behaviour by Abdullah et al. (2021), Ajzen (2013), Azizam et al. (2020), Che Rusuli et al. (2019), Chee & Sin (2020), Keat et al. (2020), Latif et al. (2023), Lim & Tan (2019), Masud et al. (2021), Nasira et al. (2021), and Swee et al. (2021) and modified to suit the context of the study to facilitate the comparison.

3.4. Analytical Techniques

Descriptive statistical analysis serves as a robust tool, offering a detailed snapshot of the demographic composition of the population surveyed (Mishra, Pandey, Singh, Gupta, et al., 2019). This method facilitates the summarisation and organisation of data characteristics, such as the mean of a variable or the correlation between two variables (Makowski et al., 2020; Mishra, Pandey, Singh, Gupta, et al., 2019; Senthilnathan, 2019; Tucker et al., 2023). In this study, cross-tabulations and chi-square tests are employed to examine the relationships between demographic variables and *Takaful* Protection choices (Bell et al., 2022; Djamba & Neuman, 2002; Marzjarani, 2020; Neuman, 2011; Sekaran & Bougie, 2016; Weyant, 2022).

Cross-tabulation is a technique used to quantitatively analyse the relationship between multiple variables, aiding in understanding the correlation between different variables (Agresti et al., 1997; Gudgeon & Howell, 1994; Marzjarani, 2020; Mishra, Pandey, Singh, Keshri, et al., 2019; Mukherjee et al., 2018). Chi-square tests are statistical methods that can be used to test whether the observed frequencies of a categorical variable are significantly different from the expected frequencies (Bell et al., 2022; Djamba & Neuman, 2002; Marzjarani, 2020; Neuman, 2011; Sekaran & Bougie, 2016; Weyant, 2022).

4. Findings and Analyses

The exploration of demographics' influence on *Takaful* Protection preferences reveals a nuanced interplay between individual characteristics and *Takaful* Subscription. Among the surveyed population, 79.41% possess *Takaful* protection, while 20.59% do not. The breakdown of these findings offers valuable insights into how various demographic dimensions intersect with *Takaful* preferences. Table 1 shows the descriptive statistics of the *Takaful* participation in Kota Kinabalu City, based on a sample of 102 respondents. The variables include demographic factors, such as gender, age, religion, marital status, educational background, occupation background, income range and working area, as well as questions related to the awareness and preference for *Takaful* products. The table provides the number of valid cases (N), the minimum and maximum values, the mean, the standard deviation, and the variance for each variable.

Table 1. Descriptive Statistics

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Variance			
Gender	102	1	2	1.51	.502	.252			
Age	102	1	6	3.33	1.028	1.056			
Religion	102	1	2	1.31	.466	.217			
Marital Status	102	1	3	1.93	.493	.243			
Education Background	102	2	7	4.59	1.367	1.868			
Occupation Background	102	1	5	4.27	.914	.835			
Income Range	102	1	11	4.57	2.759	7.614			
Working Area	102	1	9	7.07	1.381	1.906			
Which sector you are working in?	102	1	11	7.95	2.895	8.384			
How long you have been working or	102	1	7	4.39	1.100	1.21			
running your business?									
Do you have any <i>Takaful</i> protection?	102	0	1	.79	.406	.165			
Which products(s) do you subscribe to?	102	1	10	6.98	3.386	11.465			
I have yet to subscribe to any Takaful	102	1	9	7.12	2.979	8.87			
protection due to									
GK1 - Are you aware of the	102	0	1	.64	.483	.233			
government incentives and initiatives									
about insurance and Takaful?									
GK2 - Do you know that the Group	102	0	1	.62	.488	.238			
Family Takaful Products has a wide									
range of products?									

GK3 - Do you know that an	102	0	1	.58	.496	.246
Investment-Linked Takaful product is						
one of the best products of Takaful						
which offers protection and savings that						
give dividend return upon maturity?						
GK4 - If the government announced to	102	0	1	.83	.375	.140
increase in your retirement fund via						
subscription to an investment-linked						
Takaful product, would you agree to it?						
GK5 - If you are given the option to	102	1	5	2.33	1.300	1.690
subscribe to Takaful Investment-Linked						
Product for your retirement fund, which						
payment method listed below would						
you prefer?						
Valid N (listwise)	102					

Based on the above Table 1, this study found that the majority of the respondents are female (51%), Muslim (69%), married (62%), have a diploma or degree (75%), work in the private sector (76%) and have an income range between RM 1000 to RM 5000 (72%). The most popular *Takaful* product subscribed by the respondents is a medical card (29%), followed by an education plan (24%) and a retirement plan (15%). The main reason for not subscribing to any Takaful product is a lack of knowledge or information (38%), followed by a lack of trust or confidence (23%) and high cost or premium (15%). Most of the respondents are aware of the government incentives and initiatives about insurance and Takaful (64%), know that the Group Family *Takaful* Products has a wide range of products (62%) and know that Investment-Linked Takaful product is one of the best products of Takaful which offers protection and saving that is giving dividend return upon maturity (58%). The majority of the respondents also agreed to increase their retirement fund via subscription to investment-linked *Takaful* products if the government announced it (83%). The most preferred payment method for subscribing to Takaful Investment-Linked Product for retirement fund is a monthly deduction from salary (46%), followed by quarterly payment (24%) and yearly payment (18%). The descriptive statistics provide a general overview of *Takaful* participation in Kota Kinabalu City, but further analysis is needed to explore the relationships between the variables and to test the hypotheses. Therefore, the following crosstab tabulation results and chi-square test (Table 2) are presented for a better understanding of the relationships between demographics and *Takaful* participation among workers in Kota Kinabalu City.

Table 2. Summary of Crosstab and Chi-Square Test

	Cro	Chi-Square Result					
		•	Do you have any Takaful protection?		Pearson	Asymptotic Significance	
		No	Yes	Total	Chi-Square	(2-sided)	Result
Gender	Male	8	42	50	1.263	.261	Not Significant
	Female	13	39	52			
Age	18-20	2	1	3	13.204	.022	Significant
	21-30	6	11	17			
	31-40	5	34	39			
	41-50	3	28	31			
	51-60	4	6	10			

	Above 60	1	1	2			
Religion	Muslim	13	57	70	.555	.456	Not Significant
	Non-Muslim	8	24	32	.000		Tiot Significant
Marital Status	Single	6	10	16			
	Married	11	66	77	7.803	.020	Significant
	Divorced	4	5	9			
Education	Pre-University / Certificate	7	4	11			
	Diploma	1	12	13			
	Bachelor	3	11	14	15.11	.010	Significant
	Master	5	33	38	10.11	.010	218
	Doctorate	4	17	21			
	Professional	1	4	5			
Occupation	Unemployed	2	0	2			
	Freelance / Part-Timer	2	2	4			
	Businessman / Businesswoman	1	7	8	10.800	.029	Significant
	Private Worker	8	30	38			
	Government Servant	8	42	50			
Income	B1 (Below RM2,500)	9	7	16			
Range	B2 (RM2,501 – RM3,170)	0	11	11			
	B3 (RM3,171 – RM3,970)	6	11	17			
	B4 (RM3,971 – RM4,850)	1	9	10			
	M1 (RM4,851 – RM5,880)	0	11	11			
	M2 (RM5,881 – RM7,100)	2	12	14	31.045	<.001	Significant
	M3 (RM7,101 – RM8,700)	0	7	7			_
	M4 (RM8,701 – RM10,970)	0	3	3			
	T1 (RM10,941 – RM15,040)	0	8	8			
	T2 (Above RM15,041)	1	1	2			
	No Fixed Income	2	1	3			
Length of	Fresh Graduate / Student	5	0	5			
Service	Less than 5 years	4	9	13			
	5-10 years	6	14	20	36.486	<.001	Significant
	More than 10 years	4	58	62			
	Unemployed / Looking for Job	2	0	2			
Products	Personal Accident	0	6	6			
Subscribed	Life Insurance / Term Takaful	0	11	11			
	Medical Card	0	13	13			
	SOCSO	2	5	7	93.262	<.001	Significant
	i-Coverage (EPF)	2	0	2	73.202	<.001	Significant
	No Protection	17	0	17			
	Multiple Coverage	0	46	46			
Barrier of	Financial Difficulty	7	6	13			
Subscription	Expensive	0	3	3			
Subscription	Product Not Attractive	1	3	4			
	Do Not Know How to	2	2	4			
	Subscribe	2	2	4	33.699	<.001	Significant
	Not Interested	5	2	7	33.099	<.001	Significant
	Others	0	1	7			
		-					
	Multiple Reasons	2	2	4			
CV1	Not Applicable	4	62	66			
GK1	No	9	28	37	.496	.481	Not Significan
	* 7						
	Yes	12	53	65			
GK2	Yes No Yes	12 10 11	53 29 52	39 63	.986	.321	Not Significan

GK3	No	11	32	43	1 134	287	Not Significant
	Yes	10	49	59	1.134	.267	Not Significant

The primary objective of this study was to investigate the intricate relationship between various demographic characteristics and *Takaful* protection preferences within a diverse workforce in Kota Kinabalu City. Through a comprehensive examination of demographic dimensions, *Takaful* participation rates, and respondents' preferences, this study shed light on the factors that influence insurance choices among individuals in this region.

The study's findings unveiled several critical insights. Firstly, the influence of gender on *Takaful* participation appeared to be negligible. While more males were observed to have *Takaful* protection compared to females, statistical analysis, as reflected in the p-value of 0.261, indicated that gender was not a significant factor affecting the subscription to *Takaful* protection. This implies that gender does not play a decisive role in shaping *Takaful* participation patterns within this diverse workforce.

Age, on the other hand, emerged as a salient demographic factor. The analysis demonstrated a statistically significant association between age and *Takaful* protection (p = 0.022). Notably, respondents aged 31-40 and 41-50 exhibited higher rates of *Takaful* protection, while younger individuals (18-20) and older individuals (above 60) displayed lower participation in *Takaful*. This suggests that age plays a pivotal role in influencing individuals' decisions regarding insurance, with middle-aged individuals being more inclined towards *Takaful* participation.

Religion, a factor often presumed to have a substantial influence in Islamic finance contexts, was found to have no significant relationship with Takaful protection (p = 0.456). This finding suggests that religious affiliation does not substantially impact the choice between Takaful and conventional insurance within this specific context.

Marital status emerged as another significant determinant. The analysis revealed a statistically significant association between marital status and Takaful protection (p = 0.020). Married respondents displayed a higher likelihood of having Takaful protection compared to single or divorced respondents. This could be attributed to greater awareness of the benefits of Takaful among married individuals or their enhanced financial capacity to afford such protection.

Education background also played a noteworthy role in shaping insurance choices, with education level significantly associated with Takaful protection (p = 0.010). However, it's important to acknowledge that this result may warrant further scrutiny due to certain assumptions of the chi-square test not being fully met.

Occupation background exhibited a significant association with *Takaful* protection (p = 0.029). As the occupation background became more formal or stable, the likelihood of having *Takaful* protection increased. Nevertheless, given that some cells had expected counts less than 5, further research with a larger sample size may be necessary to validate this finding.

The income range showcased a compelling relationship with Takaful protection, with a highly significant association (p < 0.001). This indicated that respondents with higher incomes were more likely to possess Takaful protection. Notably, this relationship did not follow a linear trend, suggesting that income alone may not be the sole determinant of Takaful participation.

Work or business experience also played a pivotal role in influencing Takaful protection (p < 0.001). Those with more extended work or business experience displayed higher Takaful protection rates. While this association does not imply causation, it suggests a positive relationship between work experience and Takaful protection, possibly indicating that individuals with more extensive work experience have a better understanding of the importance of insurance.

In terms of *Takaful* product preferences, the study revealed that the medical card was the most subscribed product (29%), followed by the education plan (24%) and retirement plan (15%). Furthermore, the study explored the reasons for not subscribing to any *Takaful* product, with a lack of knowledge or information (38%), lack of trust or confidence (23%), and high cost or premium (15%) emerging as primary barriers.

Interestingly, awareness of government incentives and initiatives about insurance and Takaful was not significantly associated with Takaful protection (p > 0.05), indicating a low overall level of Takaful participation among respondents, irrespective of their Takaful protection status.

Moreover, knowledge of specific Takaful products, including Group Family Takaful and Investment-Linked Takaful products, did not significantly depend on Takaful protection status (p > 0.05). This suggests that having Takaful protection does not necessarily influence awareness of these Takaful products among respondents in Kota Kinabalu City.

In short, this study effectively addresses the research objectives by providing a detailed exploration of the demographic dimensions and *Takaful* preferences within the surveyed population, as well as uncovering the intricate relationships between these variables that influence *Takaful* Subscription patterns. (i) The analysis provides a comprehensive description of the demographic profile of the respondents, encompassing factors such as gender, age, marital status, education, occupation, income, and work experience. Moreover, the study goes beyond demographics to explore *Takaful* protection preferences, shedding light on the most subscribed *Takaful* products and the primary barriers to participation. These insights contribute to a thorough understanding of the surveyed population's characteristics and preferences. (ii) The analysis successfully investigates how different demographic variables interact with each other and influence *Takaful* Subscription patterns. It identifies significant associations between demographic factors and *Takaful* participation rates, including age, marital status, education, occupation, income, and work experience. These findings highlight the interplay of demographics in shaping individuals' decisions regarding insurance, offering valuable insights into the multifaceted dynamics at play.

4.1. Theory of Planned Behaviour Integration

This study applied the TPB to understand the factors that affect *Takaful* Subscription among low-income individuals in developing countries. To understand the application of the above findings into the TPB Framework, this study summary the findings into the three independent variables of the Theory of Planned Behaviour below:

Attitudes

a. **Age:** Previous research by Bakar et al. (2018) and R. Hassan et al. (2021) supports the finding that age influences *Takaful* choices. These studies indicate that as individuals progress through different life stages, their attitudes towards insurance,

including *Takaful*, may evolve, with middle-aged individuals expressing higher rates of insurance uptake. This study found that respondents aged 31-40 and 41-50 displayed higher rates of *Takaful* protection. This aligns with the TPB's emphasis on individual attitudes and perceptions. It suggests that attitudes towards the importance of insurance may change with age, with middle-aged individuals possibly perceiving insurance as more valuable or necessary.

- b. **Marital Status:** Finding from this study parallel to the finding of Areeba Khan et al. (2020) and Sherif & Azlina Shaairi (2013) that Marital status had a notable impact on *Takaful* protection. Married individuals were more likely to have *Takaful* protection. This aligns with the notion that marital status can impact attitudes towards financial responsibilities and long-term planning, influencing insurance decisions.
- c. **Education Background:** The correlation between education and *Takaful* protection aligns with the findings of Anshika et al. (2021) and Mahdzan and Peter Victorian (2013). This aligns with the TPB's focus on cognitive factors. Therefore, these studies suggest that higher education levels contribute to a more comprehensive understanding of insurance concepts and its benefits, fostering positive attitudes towards insurance.

Subjective Norms

- a. **Gender:** The lack of significant association between gender and *Takaful* protection aligns with the studies conducted by Areeba Khan et al. (2020) and Sherif and Azlina Shaairi (2013). These findings suggest that, in this context, gender-related social norms may not be predominant factors influencing insurance decisions.
- b. **Religion:** The non-significant impact of religion on *Takaful* protection resonates with the study by Nabila Khan et al. (2021) and Yazid et al. (2017). These studies indicate that, contrary to expectations, religious norms may not be the primary drivers influencing insurance choices among the respondents.

Perceived Behavioural Control

- a. **Income Range:** The strong association between income range and *Takaful* protection is supported by research from Djafri et al. (2018) and Raza et al. (2020). These studies suggest that higher-income individuals may perceive insurance as more affordable and within their control, aligning with the notion of perceived behavioural control within the TPB framework.
- b. **Occupation Background:** The influence of occupation background on *Takaful* protection resonates with the findings of Bakar et al. (2018) and Keat et al. (2020). These studies suggest that individuals in more stable or formal occupations may exhibit a greater sense of financial security and control, influencing their decision to invest in insurance.
- c. **Work or Business Experience:** The positive correlation between longer work or business experience and higher *Takaful* protection rates aligns with the insights from Bakar et al. (2018) and Keat et al.(2020). These studies propose that

individuals with longer work experience may feel a greater perceived control over their financial situation, influencing their decision to opt for *Takaful* protection.

Additional Insights within the TPB Framework are (i) *Takaful* Product Preferences. The findings related to *Takaful* product preferences and the reasons for not subscribing to these products can be linked to attitudes and perceived behavioural control. Respondents' attitudes toward specific *Takaful* products and their perceived affordability (control) may play a role in their product choices. (ii) Awareness of Government Initiatives and *Takaful* Knowledge. The lack of a significant association between awareness of government initiatives and *Takaful* knowledge with *Takaful* protection suggests that while these factors may influence attitudes, they may not strongly impact perceived control over the decision to participate in *Takaful*. In summary, these findings fit within the TPB framework by highlighting the interplay of attitudes, subjective norms, and perceived behavioural control in the context of insurance and *Takaful* decisions. The framework can help us better understand the underlying motivations and barriers that drive individuals to participate or refrain from participating in *Takaful* within this diverse workforce in Kota Kinabalu City.

5. Conclusion

This study aimed to examine the complex interplay between demographic attributes and Takaful protection preferences among the heterogeneous workforce of Kota Kinabalu City. The results of this inquiry revealed several significant implications. Gender seemed to have minimal impact on Takaful participation, whereas age was a crucial factor, with middle-aged individuals showing higher levels of *Takaful* protection. Contrary to expectations, religious affiliation did not have a considerable effect on the preference between Takaful and conventional insurance. Marital status had a significant role, with married individuals displaying a higher propensity to have *Takaful* protection, possibly due to increased awareness and enhanced financial capability. Furthermore, education level, occupation background, income range, and work experience all exhibited varying degrees of influence on insurance choices, providing a nuanced comprehension of the dynamics involved. The study also illuminated the most preferred *Takaful* products and pinpointed key obstacles to participation, such as knowledge gaps and concerns about premiums. Notably, it highlighted a generally low level of Takaful participation, irrespective of government incentives or product knowledge. These findings offer valuable insights for *Takaful* providers aiming to customize their products to specific demographic segments, with the possibility for further research to investigate the underlying motivations and barriers in more depth.

6. References

Abdullah, N., Roslan, A., Yusuf, R. Y. M., & Rasid, M. F. R. M. (2021). Behavior of Malaysian iGeneration in purchasing life insurance policy. *Universal Journal of Accounting and Finance*, 8(4). https://doi.org/10.13189/UJAF.2020.080408

- Agresti, A., Finlay, B., & Finley, B. (1997). Statistical Methods for the Social Sciences, 4th ed. In *Nature* (Vol. 149, Issue 3769).
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2). https://doi.org/10.1016/0749-5978(91)90020-T
- Ajzen, I. (2013). Ajzen, I. (2013). Theory of Planned Behaviour Questionnaire. *Measurement Instrument Database for the Social Science*.
- Amarnath, G., Ghosh, S., Alahacoon, N., Ravan, S. K., Taneja, P. K., Dave, N., & Srivastava, S. K. (2019). Insurance as an agricultural disaster risk management tool: evidence and lessons learned from South Asia. In *United Nations Economic and Social Commission for Asia and the Pacific*.
- Anshika, Singla, A., & Mallik, G. (2021). Determinants of financial literacy: Empirical evidence from micro and small enterprises in India. *Asia Pacific Management Review*, 26(4). https://doi.org/10.1016/j.apmrv.2021.03.001
- Areeba Khan, Hafiz Abdur Rashid, Rana Muhammad Shahid Yaqub, & Saba Abbas. (2020). Determinants of Customer Perception about adoption of Islamic Insurance (*Takaful*) in Pakistan. *Journal of Business and Social Review in Emerging Economies*, 6(4). https://doi.org/10.26710/jbsee.v6i4.1485
- Arifin, J., & Yazid, A. S. (2018). The Influence of Innovation Attributes on Loyalty in Family *Takaful*: A Conceptual Study. *South East Asia Journal of Contemporary Business, Economics and Law*, 15(1).
- Azizam, N. A., Dzulkipli, M. R., Shamimi, N. I., Maon, S. N., John, D., Belawing, J., Jawa, J., & Yahaya, N. (2020). Applicability of Theory of Planned Behavior and Protection Motivation Theory in Predicting Intention to Purchase Health Insurance. *ADVANCES IN BUSINESS RESEARCH INTERNATIONAL JOURNAL*, 6(1). https://doi.org/10.24191/abrij.v6i1.9939
- Bakar, J. A., Ganapathy, T., & Krishnan, C. (2018). Demographics, economics and psychographics determinants of life insurance consumption among school teachers in Kampar, Perak. *International Journal of Engineering and Technology(UAE)*, 7(4). https://doi.org/10.14419/ijet.v7i4.28.22383
- Bell, E., Bryman, A., & Harley, B. (2022). Business Research Methods. In *Business Research Methods*. Oxford University Press. https://doi.org/10.1093/hebz/9780198869443.001.0001
- Brighetti, G., Lucarelli, C., & Marinelli, N. (2014). Do emotions affect insurance demand? *Review of Behavioral Finance*, 6(2). https://doi.org/10.1108/RBF-04-2014-0027

- Browne, M. J., & Kim, K. (1993). An International Analysis of Life Insurance Demand. *The Journal of Risk and Insurance*, 60(4). https://doi.org/10.2307/253382
- Che Rusuli, M. S., Ruwaida, R., Noraani, M., Takala, J., & Nizamuddin, M. (2019). Influence of marketing mix strategy in insurance business: The case of Kota Bharu. *Research in World Economy*, 10(2 Special Issue). https://doi.org/10.5430/rwe.v10n2p88
- Chee, L. C., & Sin, T. S. (2020). The significance of personal value, risk attitude and trust on life insurance ownership in the northern regions of Malaysia. *Jurnal Pengurusan*, 58. https://doi.org/10.17576/pengurusan-2020-58-06
- Creswell, J. W. (2003). Creswell, J.W. (2003). Chapter One, "A Framework for Design." Research Design Qualitative Quantitative and Mixed Methods Approaches. https://doi.org/10.3109/08941939.2012.723954
- Djafri, F., Bin Noordin, K., & Naail Mohammed, K. (2018). The measurement model of performance determinants: A case study of Islamic insurance (*Takaful*) in Malaysia. *International Journal of Ethics and Systems*, 34(2). https://doi.org/10.1108/IJOES-05-2017-0075
- Djamba, Y. K., & Neuman, W. L. (2002). Social Research Methods: Qualitative and Quantitative Approaches. *Teaching Sociology*, 30(3). https://doi.org/10.2307/3211488
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2013). G*Power 3. In *Heinrich-Heine University Institute for Experimental Psychology*.
- Gudgeon, A. C., & Howell, D. C. (1994). Statistical Methods for Psychology. *The Statistician*, 43(1). https://doi.org/10.2307/2348956
- Hassan, H. A., & Abbas, S. K. (2020). Factors influencing the investors' intention to adopt *Takaful* (Islamic insurance) products: A survey of Pakistan. *Journal of Islamic Marketing*, 11(1). https://doi.org/10.1108/JIMA-03-2018-0064
- Hassan, R., Salman, S. A., Syahira, S., Yusoff, M., Razinah, N., Zain, M., & Yusoff, A. (2021). A Preliminary Study on the Factors Influencing Malaysian Youths' Adoption and Rejection of *Takaful*. In *Journal of Positive School Psychology* (Vol. 2022, Issue 3).
- Hogarth, J. M., Beverly, S. G., & Hilgert, M. (2003). Patterns of Financial Behaviors: Implications for Community Educators and Policy Makers Discussion Draft February, 2003. 2003 Federal Reserve System Community Affairs Research Conference.

- Keat, P. T. B., Zakaria, W. N. W., & Mohdali, R. (2020). Factors influencing purchase intention of life Insurance among engineering students. *Open International Journal of Informatics*, 8(1).
- Kusairi, S., Sanusi, N. A., Muhamad, S., Shukri, M., & Zamri, N. (2019). Financial households' efficacy, risk preference and saving behaviour: Lessons from lower-income households in Malaysia. *Economics and Sociology*, 12(2). https://doi.org/10.14254/2071-789X.2019/12-2/18
- Latif, R. Abd., Yoong, C. F., Ghee, L. W., Sam, K. K., Wee, M. F. H., & Voon, S. L. (2023). The Relationship between Service Quality, Perceived Value, Corporate Image, Complaint Behaviour, Role of Agent and Customer Satisfaction in Life Insurance Services in Klang Valley, Malaysia. *International Journal of Economics, Business and Management Research*, 07(01). https://doi.org/10.51505/ijebmr.2023.7105
- Lee, J., Hanna, S. D., & Lindamood, S. (2017). The Increasing Problem of Household Debt Payment Delinquency of Hispanic Households. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3083809
- Lim, C. C., & Tan, S. S. (2019). Demographic profiling of life insurance ownership in the northern regions of Malaysia. *International Journal of Business and Society*, 20(3).
- Mahdzan, N. S., & Peter Victorian, S. M. (2013). The determinants of life insurance demand: A focus on saving motives and financial literacy. *Asian Social Science*, 9(5). https://doi.org/10.5539/ass.v9n5p274
- Mahdzan, N. S., & Tabiani, S. (2013). The impact of financial literacy on individual saving: An exploratory study in the malaysian context. In *Transformations in Business and Economics* (Vol. 12, Issue 1).
- Makowski, D., Ben-Shachar, M., Patil, I., & Lüdecke, D. (2020). Methods and Algorithms for Correlation Analysis in R. *Journal of Open Source Software*, *5*(51). https://doi.org/10.21105/joss.02306
- Marzjarani, M. (2020). Statistical Methods in Social Science Research. *Technometrics*, 62(2). https://doi.org/10.1080/00401706.2020.1744914
- Masud, M. M., Ahsan, M. R., Ismail, N. A., & Rana, M. S. (2021). The underlying drivers of household purchase behaviour of life insurance. *Society and Business Review*, *16*(3). https://doi.org/10.1108/SBR-08-2020-0103
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, 22(1). https://doi.org/10.4103/aca.ACA 157 18

- Mishra, P., Pandey, C., Singh, U., Keshri, A., & Sabaretnam, M. (2019). Selection of appropriate statistical methods for data analysis. *Annals of Cardiac Anaesthesia*, 22(3). https://doi.org/10.4103/aca.ACA 248 18
- Muhamad, S., Kusairi, S., & Zamri, N. (2021). Savings behaviour of bottom income group: Is there any role for financial efficacy and risk preference? *Economics and Sociology*, *14*(2). https://doi.org/10.14254/2071-789X.2021/14-2/3
- Mukherjee, S. P., Sinha, B. K., & Chattopadhyay, A. K. (2018). Statistical methods in social science research. In *Statistical Methods in Social Science Research*. https://doi.org/10.1007/9789811321467
- Nabila Khan, Nadeem Iqbal, & Sadaf. (2021). Religiosity, Income and Consumption Decision: Analysing Gender Differences (A case study of District Peshawar, Khyber Pakhtunkhwa). Research Journal of Social Sciences and Economics Review (RJSSER), 1(4). https://doi.org/10.36902/rjsser-vol1-iss4-2020(427-432)
- Nasira, N. F., Roslin, R. M., Nasir, M. N. F., Nasir, M. F., Nasir, M. A., & Mohamed, N. A. (2021). Investigating Knowledge as a Possible Predictor of Purchase Intention among Muslims in Malaysia for Life Insurance and *Takaful*. *International Journal of Academic Research in Business and Social Sciences*, 11(2). https://doi.org/10.6007/ijarbss/v11-i2/8880
- Neuman, W. L. (2011). Social Research Methods: Qualitative and Quantitative Approaches. In *Pearson Education*.
- Poan, R., Merizka, V. E., & Komalasari, F. (2022). The importance of trust factor in the intentions to purchase Islamic insurance (*Takaful*) in Indonesia. *Journal of Islamic Marketing*, 13(12). https://doi.org/10.1108/JIMA-01-2021-0026
- Rahman, M. S., Abdel Fattah, F. A. M., Zaman, M., & Hassan, H. (2018). Customer's patronage decision toward health insurance products: Mediation and multi-group moderation analysis. *Asia Pacific Journal of Marketing and Logistics*, 30(1). https://doi.org/10.1108/APJML-12-2016-0248
- Raza, S. A., Ahmed, R., Ali, M., & Qureshi, M. A. (2020). Influential factors of Islamic insurance adoption: an extension of theory of planned behavior. *Journal of Islamic Marketing*, 11(6). https://doi.org/10.1108/JIMA-03-2019-0047
- Roberts, C., Gepp, A., & Todd, J. (2023). A Big Data Framework to Address Building Sum Insured Misestimation. *Big Data Research*, 33. https://doi.org/10.1016/j.bdr.2023.100396
- Sabri, M. F., Wahab, R., Mahdzan, N. S., Magli, A. S., & Rahim, H. A. (2022). Mediating Effect of Financial Behaviour on the Relationship Between Perceived Financial Wellbeing and

- Its Factors Among Low-Income Young Adults in Malaysia. *Frontiers in Psychology*, 13. https://doi.org/10.3389/fpsyg.2022.858630
- Sekaran, U., & Bougie, R. (2016). Research methods: A skill building approach. John Wiley & Sons. *Leadership & Organization Development Journal*.
- Senthilnathan, S. (2019). Usefulness of Correlation Analysis. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3416918
- Sequeira, S. B., Wright, M. A., & Murthi, A. M. (2023). Payor type is associated with increased rates of reoperation and health care utilization after rotator cuff repair: a national database study. *Journal of Shoulder and Elbow Surgery*, 32(3). https://doi.org/10.1016/j.jse.2022.09.003
- Seyedin, H., Samadipour, E., & Salmani, I. (2019). Intervention strategies for improvement of disasters risk perception: Family-centered approach. *Journal of Education and Health Promotion*, 8(1). https://doi.org/10.4103/jehp.jehp 200 18
- Sherif, M., & Azlina Shaairi, N. (2013). Determinants of demand on family *Takaful* in Malaysia. *Journal of Islamic Accounting and Business Research*, 4(1), 26–50. https://doi.org/10.1108/17590811311314276
- Swee, D. L. E., Nathan, R. J., Gorgenyi-Hegyes, E., & Fekete-Farkas, M. (2021). The demand for life insurance in a developing country and the mediating role of persuasion. *Journal of International Studies*, *14*(3). https://doi.org/10.14254/2071-8330.2021/14-3/9
- Toledo-Pereyra, L. H. (2012). Research Design. *Journal of Investigative Surgery*, 25(5), 279–280. https://doi.org/10.3109/08941939.2012.723954
- Tran, S. T., Koven, M. L., Castro, A. S., Goya Arce, A. B., & Carter, J. S. (2020). Sociodemographic and Environmental Factors are Associated with Adolescents' Pain and Longitudinal Health Outcomes. *Journal of Pain*, 21(1–2). https://doi.org/10.1016/j.jpain.2019.06.007
- Tucker, M. C., Shaw, S. T., Son, J. Y., & Stigler, J. W. (2023). Teaching Statistics and Data Analysis with R. *Journal of Statistics and Data Science Education*, 31(1). https://doi.org/10.1080/26939169.2022.2089410
- Weyant, E. (2022). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, 5th Edition. *Journal of Electronic Resources in Medical Libraries*, 19(1–2). https://doi.org/10.1080/15424065.2022.2046231
- Yakob, R., B.A.M, H.-S., & Badrul Hisham, N. H. (2019). Demographic analysis towards the understanding of Education *Takaful* (Islamic Insurance) Plan. *Malaysian Journal of Society and Space*, 15(4). https://doi.org/10.17576/geo-2019-1504-07

Yazid, A. S., Ariffin, J., Awang, Z., Daud, W. N. W., Zainol, F. A., Salleh, F., Rashid, N. M. N. N. M., Rasit, Z. A., & Hamid, N. A. (2017). Does Education Moderates the Relationship Between Decision Factors and Purchase Decision of Family *Takaful* Protection in Malaysia? *World Applied Sciences Journal*, 35(9).