

DYNAMICS OF TAKAFUL ADOPTION: EXAMINING CURRENT CHALLENGES IN THE GOVERNMENT-ASSISTED RURAL COMMUNITY IN MALAYSIA USING A MIXED-METHOD APPROACH

(Dinamika Penerimaan Takaful: Meneliti Cabaran Semasa di Komuniti Luar Bandar yang dibantu Kerajaan di Malaysia Menggunakan Pendekatan Kaedah Campuran)

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ABSTRACT

Takaful is based on the principles of solidarity, cooperation, and mutual support to help members to recover from losses due to incidents. It is important to be aware of the challenges this concept faces in rural communities, where access to information, assistance and insurance services is often more difficult than in urban areas. The research study employed an Exploratory Sequential Design (ESD) within a mixed-methods research paradigm. Qualitative data were obtained from two Focus Group Discussions (FGDs) and a personal interview with a total of 10 respondents and analysed by thematic analysis. Quantitative data were collected through an online questionnaire (n=1199) and analysed using exploratory factor analysis and multiple regression. The results showed that there are two main factors (challenges of Takaful adaptation and current coping methods for managing unexpected events) that create obstacles and negative impacts towards Takaful adoption in the rural palm oil plantation estate community in Malaysia. The study emphasises the importance of flexible, trust-based and culturally sensitive Takaful models based on the real-life experience of the rural community. To increase the adoption rates, Takaful providers and policymakers need to address not only awareness issues but also the structural and behavioural challenges that are rooted in the community's risk management habits.

Keywords: takaful adoption; mixed-methods; challenges; rural community; Malaysia

ABSTRAK

Prinsip Takaful iaitu insurans yang patuh syariah adalah berasaskan kepada solidariti, kerjasama, dan saling membantu bagi membantu ahli pulih daripada kerugian yang disebabkan oleh sesuatu kejadian. Memahami cabaran yang dihadapi oleh konsep ini sangat penting dikalangan komuniti luar bandar, yang sering berdepan dengan kesukaran untuk mendapatkan maklumat, bantuan, dan perkhidmatan insurans berbanding kawasan bandar. Kajian ini menggunakan dalam pendekatan penyelidikan kaedah gabungan (kualitatif dan kuantitatif). Data kualitatif dikumpulkan melalui dua sesi Perbincangan Kumpulan Fokus (FGD) dan satu temu bual individu yang melibatkan seramai 10 responden, kemudian dianalisis menggunakan analisis tematik. Data kuantitatif pula dikumpulkan melalui soal selidik dalam talian (n = 1199) dan dianalisis menggunakan analisis faktor penerokaan serta regresi berganda. Hasil kajian mengenal pasti dua faktor utama, iaitu cabaran dalam penerimaan perlindungan Takaful dan kaedah semasa yang digunakan untuk menangani kejadian tidak dijangka, yang menjadi halangan serta memberi kesan negatif terhadap penerimaan Takaful dalam komuniti ladang kelapa sawit luar bandar di Malaysia. Kajian ini menekankan keperluan model Takaful yang lebih sensitif terhadap budaya, fleksibel, dan berasaskan kepercayaan agar selari dengan realiti kehidupan komuniti luar bandar. Bagi meningkatkan kadar penerimaan, penyedia Takaful dan pembuat dasar perlu menangani bukan sahaja isu kesedaran, tetapi juga cabaran struktur dan tingkah laku yang berpunca daripada amalan pengurusan risiko dalam komuniti.

Kata kunci: penerimaan takaful; kaedah campuran; cabaran; komuniti luar bandar; Malaysia

1. Introduction

However, people in rural areas all over the world are still suffering from poverty, unfairness and being vulnerable to economic and environmental shocks which can damage their ability to continue their business in the long run (Yusriadi & Kaslin 2025). Like this, similar scenarios are taking place in rural Malaysia, where the local population relies on agriculture and natural resources for their livelihoods and are therefore exposed to market fluctuations and climate shocks (Yusoff *et al.* 2024; Bahrin *et al.* 2024). In such places, humans can better live by promoting education, skill development, and easy access to basic needs. This is also possible by developing human capital so that future generations can have more opportunities for jobs. In addition, the government should associate growth with actions that help communities achieve financial and political independence (Kamar *et al.* 2022; Johan *et al.* 2023; Sairmaly 2023). This could be a major concern for the Malaysian government in terms of the ability of the communities living in the land settlement to pay their bills. This study mainly focuses on the palm oil plantation community. This group is one of the largest rural groups in the country and is scattered around many areas. If this is the case, Takaful ownership may help the rural population to cope with uncertain financial situations. Takaful is a cooperative insurance based on Shariah principles. Takaful is an Islamic insurance system based on the concept of mutual help, voluntary contribution and collective responsibility. The word Takaful is derived from the Arabic word *kafāla* which means “guarantee”. As per section 2 of Takaful Act, 1984 (Act 312), the members of the Takaful system contribute money to a fund for the benefit of the needy (Fauzi *et al.* 2016). Yazid *et al.* (2012) and Puad *et al.* (2023) state that the main purpose of *tabarru'* (charity) and *ta'awun* (cooperation) are to encourage cooperation and risk sharing among people. Takaful is a kind of insurance that provide coverage for families and daily needs. Family Takaful provides help to individuals and groups in their mortgages, health care, and education (Riaz *et al.* 2021). As Ali (2016), Hassan (2020) and Che Mohd Salleh *et al.* (2010) stated that takaful is different from conventional insurance. It is operated through different structures such as Mudharabah, Wakalah, Hybrid and Waqf structures. If people understand these ideas better they will be better able to choose the right protection. Takaful is still growing, as it is not very popular in rural Malaysia, especially in the FELDA communities settled in palm oil plantation areas (Hassan *et al.* 2022; Miskan *et al.* 2024). The objectives of this study are to identify 1) the barriers to the use of Takaful, 2) how rural households manage their financial problems, and 3) the effects of these on the demand for Takaful products in rural palm oil plantation areas in Malaysia.

2. Literature Review

2.1. Determinants of Takaful Adoption

Consumer purchase intention is defined as someone's readiness or intent to purchase a specific product or service (Talwar *et al.* 2021). The process of product adoption is viewed as a sequential process of awareness, interest, evaluation, trial and adoption generally, where each stage influences consumers in their way to the final purchase decision (Pandey & Rai 2018; Cahyati & Munandar 2023). The acceptance of Takaful is a complex process, affected by a number of behavioral, religious, cognitive and service factors that influence consumers' intention to adopt Shariah-compliant protection schemes. The most common factor influencing Takaful adoption is the level of consumer awareness and knowledge. People who are knowledgeable about the basics of Takaful, the social and financial benefits of Takaful

and the features of Takaful that are consistent with the Shariah are generally more likely to consider Takaful over conventional insurance. Therefore, an important way to promote informed decision-making and increase participation is to improve public awareness. Mehboob Shaikh and Amin (2024) also examined the role of awareness and behavioural intention. The results indicated that awareness, positive affect, facilitating conditions, and religious obligation significantly impact the purchase intention of family Takaful among Pakistani consumers. Perceived risk and social influence do not significantly affect purchase intention. Similarly, Mukhtar and Barre (2024) revealed that perceived relative advantage, compatibility, awareness, cultural congruence and trust significantly affect the adoption of Takaful by Somali consumers.

The literature has also highlighted the significance of innovation-related characteristics. Ali *et al.* (2019) employed perspective of Diffusion of Innovation and found positive effects of relative advantage, compatibility, trialability, observability, religiosity and consumer awareness on the consumers' willingness to adopt Takaful products. Likewise, Qian and Darman (2023) discovered that attitude and perceived relative advantage significantly affect Takaful acceptance among non-Muslim consumers in Malaysia, with attitude being the most important predictor, while awareness and service quality were not significant in this population. Service related attributes also helps in increasing Takaful adoption. The quality of service and agent effectiveness significantly impact the satisfaction of Malaysian Takaful participants (Shaladin *et al.* 2018). Similarly, Juhari *et al.* (2016) found that reliability, fairness, responsiveness and tangibility significantly impact customer satisfaction and customer loyalty with fairness being the most dominant service quality dimension. In line with these findings, Sultana and Moonmoon (2022) identified that trust, reliability, awareness, religiosity and compatibility are significant factors to enhance consumers' willingness to partake in Takaful services. In Malaysia, Saidon *et al.* (2019) found that the dominant factors influencing the participation of family Takaful were perceived product benefits, preference for education and health Takaful plans and service quality. Overall, previous studies consistently find that the adoption of Takaful is influenced by a combination of behavioural, cognitive, religious and service related determinants. The relative importance of these factors differs between countries and demographic groups. Awareness, attitude, perceived relative advantage, trust, religiosity, compatibility and service quality are often predictors of takaful adoption.

2.2. Barriers and Research Gaps in Rural Takaful Adoption

Despite the emerging evidence identifying the determinants of Takaful adoption, far lesser attention has been paid to understand the barriers to consumers' participation in Takaful, particularly among rural communities. Much of the existing literature has focused on identifying factors that encourage adoption rather than the structural, informational and contextual challenges that deter participation.

Among the barriers identified in previous studies, product complexity has been extensively studied. Ali *et al.* (2019) claimed that complexity is a key factor in consumers' reluctance to adopt Takaful products; the authors stated that the structural complexity of Takaful products and the lack of consumer understanding of the product features may offset the perceived benefits of Takaful. This finding highlights the need to simplify product design and improve communication strategies to increase consumer acceptance.

Institutional and operational challenges have been identified as barriers for Takaful participation. The participants of Saudi Takaful operators expressed their concerns as distribution of underwriting surplus, Shariah compliance, adequacy of fund, competency of

executives, transparency, investment return and claims process (AlNemer 2015). In particular, it was noted that inefficient claims settlement procedures eroded consumer trust, especially at times of economic uncertainty. Similarly, the results of Shaladdin *et al.* (2018) and Juhari *et al.* (2016) indicated that low service quality, bad agents and perceived unfairness may discourage consumers from long-term involvement in Takaful schemes.

Awareness, trust, service quality and perceived benefits are often cited as determinants of Takaful adoption. However, these variables can also be barriers when they are missing or insufficient. For example, low awareness, low trust, poor quality of services and weak information dissemination may jointly reduce the willingness of the consumers to adopt Takaful. Yet these have mostly been treated as behavioral determinants, not contextual barriers, with limited understanding of how they function within underserved populations.

Furthermore, existing empirical evidence has focused mainly on urban consumers or the general population in different countries. Conversely, little is known about the constraints faced by rural communities, especially those receiving external support or living in government-assisted settlements. The rural population may differ from urban consumers regarding financial literacy, access to financial services, exposure to information and socio-economic characteristics. This indicates that the factors influencing the adoption of Takaful are likely to be quite different.

Therefore, there is still a considerable research gap on the barriers to Takaful adoption among the rural palm oil plantation communities in Malaysia. This study intends to fill this gap by investigating the challenges that influence Takaful uptake among this underserved population. This study aims at providing evidence to policy makers and Takaful operators to formulate more inclusive and effective strategies to widen Takaful coverage and improve financial protection among rural households by identifying these barriers..

3. Methodology

The research adopted a sequential exploratory design (ESD) in the mixed methods research paradigm (MMR) that is based on a pragmatic perspective to combine qualitative and quantitative methods to achieve a more holistic outcome (Sharma *et al.* 2023). A mixed method exploratory sequential design was used with in depth interviews and questionnaires. Qualitative data were obtained from Focus Group Discussions (FGDs) and analysed thematically. The qualitative study was complemented with quantitative data, collected through an on-line questionnaire. Also used were multiple regression and exploratory factor analyses to perform a test for causal effects and relationships between the elements.

3.1. Research Design and Sampling

Open and closed-ended questions and focus group discussions were used in the qualitative phase. Three academic experts reviewed academic papers, newspaper archives, and government agency information related to the study objectives and met with rural community representatives to develop the questions. The study used clear and detailed questions for both focus group discussions and personal interviews. For the focus group discussion, the research team and the authorised government agency initially selected 15 members who met the requirements in Table 1. The number of respondents was based on Carlsen and Glenton (2011), who note that focus groups typically had four to twelve members. The final structured interviews and focus group discussions were conducted with 10 individuals from three categories, providing the research team with a comprehensive understanding of the community to support its goals. The participants included a) five government agency

management and administrative officers with at least three years of rural community affairs experience, b) four rural palm oil plantation residents from various regions who participated in two separate focus group discussions, and c) a palm oil plantation resident Takaful agent who was interviewed semi-structured.

Table 1: The criteria for selecting participants for focus group discussions

No.	Selection Criteria	
(1)	Age	25 to 45 years
(2)	Gender	Male/Female
(3)	Religious	Islam
(4)	Life and family background	The rural palm oil plantation residents Being in the studied rural community for a minimum of 10 years
(5)	Academic Qualifications	Passed SPM or Diploma, or Bachelor's Degree
(6)	Work Experience	Holding the position of executive in the rural community Government agency's legal appointment 2 years of related work experience Have in-depth knowledge of the field of work Know the vision and mission of the related government agencies Have a good or excellent work performance record
(7)	Communication Ability	Can speak and understand (Bahasa Melayu) well Have good relationships with the rural community members
(8)	Knowledge About Takaful	Ever heard of takaful products

Note: SPM is the equivalent of the General Certificate of Secondary Education (GCSE)

The quantitative instrument included three sections: a) Takaful uptake intention, b) problems in acquiring Family Takaful products and services, and c) rural palm oil plantation estate communities' financial crisis management plans. The questionnaire was designed using insights from relevant literature (Shaikh *et al.* 2020; Poan *et al.* 2022), with a few tweaks to focus on Takaful uptake intentions and incorporate findings from the qualitative phase on other factors that may hinder Takaful adoption. The respondents' opinions were rated on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

The questionnaire's content validity was evaluated by two academic experts from the research team and two representatives from the relevant government agency, utilising the Content Validity Index (CVI). The recommended range for expert assessment of an instrument's content validity is often between 2 and 20 (Polit *et al.* 2007; Mustafa *et al.* 2024). According to Polit *et al.* (2007) and Yusoff (2019), as cited in Mustafa *et al.* (2024), content validity is evaluated using two primary indices: the Item-Level Content Validity Index (I-CVI) and the Scale-Level Content Validity Index (S-CVI). Current research indicates that a content-valid scale must have I-CVI values of no less than 0.78, with S-CVI/UA at 0.8 or higher and S-CVI/Ave at 0.9 or above (Polit *et al.* 2007).

After reviewing content validity and before starting the pilot study, an in-person face validity check was done to assess the questionnaire's consistency, clarity, and ease of understanding, as well as to gather general feedback. A total of 27 community members took part in this pre-testing to meet the face validity criteria. Based on reviewer comments from this phase, the researcher revised the item statements. The updated questionnaire was then distributed to 100 participants for the exploratory factor analysis (EFA) in the pilot study. The required sample size of 100 is thus validated by prior research (Pey *et al.* 2021; Baistaman *et al.* 2022; Mustafa *et al.* 2024). The respondents were subsequently excluded from participating in the quantitative field survey. The collected data were analysed to determine and quantify the dimensionality of items assessing the construct. Upon validation, the final questionnaire was disseminated online to a targeted sample of 1,200 respondents across 11 rural palm oil plantation estates in Malaysia. The target population was stratified by the 11

rural palm oil plantation estates, and respondents were selected from each estate using proportionate stratified sampling based on each estate's population size. The entire data collection process was completed within one month.

3.2. Data Analysis

Focus group discussions and personal interview data were manually analyzed in the qualitative phase, based on questions posed to relevant respondents, to determine the main barriers to Takaful product and service adoption and rural communities' current coping methods for financial disruptions arising from unexpected events/death. There are six steps to this data analysis: (1) creating a transcript and getting to know the data, (2) choosing codes, (3) developing themes, (4) expanding subthemes, (5) conceptualising by interpreting codes, themes, and subthemes; and finally, (6) creating the report (e.g., text, graph, or simple model). The report was based on Naeem *et al.* (2023) and Ahmed *et al.* (2025), with some changes to fit the study's goals. These steps improve research rigour and findings.

Exploratory factor analyses and multiple regression analyses were used to determine how major challenging issues and existing approaches affect Takaful demand in the quantitative phase. First, exploratory factor analysis (EFA) was used to investigate the challenges and existing coping techniques affecting Takaful adoption intention. EFA ignores unique variables and uses Principal Axis Factoring (PAF) to find common components from the correlation matrix. PAF helps reduce data variance by identifying the most significant parameters. PAF is beneficial for understanding the theoretical structure of a construct or developing a scale to measure it (De Winter & Dodou 2012; Grieder & Steiner 2022). Following that, factor reliability and validity were tested. Multiple regression analysis was used to determine how these characteristics (challenges of takaful adoption and existing coping methods with unexpected events) affect Takaful adoption intention. Figure 1 illustrates the study model. This thorough analytical methodology identified and validated key components, providing substantial insights into the factors driving Takaful demand intention. Multiple linear regression, also known simply as multiple regression, is used to model quantitative outcomes. In multiple regression, the model may be written in any of the following ways:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p + \varepsilon \quad (1)$$

$$E(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p \quad (2)$$

where $E(Y)$ is the mean value of Y for a given set of predictors ($X_1, X_2, \dots, X_p$). These equations convey that in the case of multiple regression, the model specifies that the mean value of a response variable Y for a given set of predictors is given by a linear function of the independent variables, $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p$, where the parameters $\beta_0, \beta_1, \beta_2, \dots, \beta_p$ represent the model parameters to be estimated. The error term ε acknowledges that individual outcomes will vary about that mean. The standard assumptions associated with multiple linear regression are that the error terms are normally distributed and homoscedastic, that is, the variance of the errors is the same across all levels of the independent variables (Dawson *et al.* 2021).

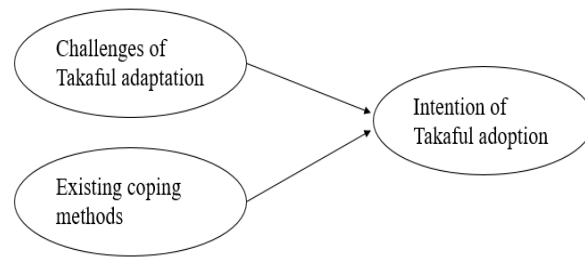


Figure 1: Diagram of the tested study model

4. Results and Discussions

4.1. Qualitative Outcome

The survey found five key obstacles preventing respondents from embracing Takaful products and services, as well as four community-based strategies for handling financial shocks and unexpected events, including deaths. These quantitative data were collected using a systematic, structured thematic approach to ensure thoroughness and reduce bias.

Transcription was the initial phase. The recorder's role is critical for capturing information from these conversations, and the transcription is based on the recorded interview notes. To avoid missing important details, two recorders captured interview sessions. Two researchers identified keywords and critical portions by reviewing the article. The results showed respondents' views on barriers to Takaful uptake. Most respondents were also aware of the societal issues surrounding this subject. Table 2 shows the main barriers to rural Takaful adoption as reported by respondents.

Table 2: Respondents' statements on challenges and Takaful uptake

Respondent	Statements/quotations
Management and Administrative Officers from government agencies (MAO)1	<i>"Many in the rural community still depend on government support, so they do not feel the urgency to own Takaful. In addition, there is limited understanding of Takaful, and existing products do not match their inconsistent income patterns."</i>
MAO 2	<i>"Low education levels and limited financial literacy make Takaful awareness difficult. Many still believe the government will take care of everything and remain skeptical of financial products."</i>
MAO 3	<i>"Most Takaful plans are designed for urban, salaried workers and do not reflect the lifestyle of rural communities. Combined with reliance on government assistance and limited understanding of Takaful, uptake remains low."</i>
MAO 4	<i>"Many believe the government will step in during hardship, reducing the perceived need for Takaful. Low awareness and past negative experiences with financial schemes further contribute to mistrust."</i>
MAO 5	<i>"The main barriers are unsuitable Takaful products, reliance on government aid, and limited knowledge. Many settlers do not understand Takaful's long-term benefits, while unstable income makes the cost seem unaffordable."</i>
Representative of the Rural Palm Oil Residents (POR)1	<i>"To be honest, I don't fully understand how Takaful works. I've heard about it during community events, but no one really explains it in a way we can relate to. Plus, I always thought if something serious happened, the government would help us out like they usually do."</i>
POR2	<i>"Our income is seasonal and inconsistent. Most Takaful plans seem designed for salaried urban workers and do not fit our lifestyle."</i>

Table 2 (Continued)

POR3	<i>"Some people had negative experiences with previous insurance schemes, making the community more cautious. Many also rely on government support when assistance is needed."</i>
POR4	<i>"It is not that we do not want protection; we cannot afford regular payments. Many are also unsure of Takaful's benefits and rarely see others in the community using it."</i>
Takaful agent	<i>"When I approach the community, the first thing I notice is the lack of basic understanding about what Takaful really offers. Many assume it's just like conventional insurance or worse, a scam, because of past negative experiences. Most say they can't afford the monthly payments, and they often tell me, 'If something happens, the government will help us.' Honestly, unless the products are adjusted to suit their irregular income and simpler needs, it's going to remain a hard sell."</i>

Furthermore, screening aligned with the study's second objective shows that nearly all respondents hold similar views on the community's current coping strategies for financial disruptions and unforeseen events, including deaths. Table 3 indicates common statements given by respondents.

Table 3: Respondents' statements on current financial methods for managing unexpected events

Respondent	Statements/quotations
Management and Administrative Officers from government agencies (MAO)1	<i>"In emergency or death cases, the community primarily relies on structured assistance from government agencies. When support is insufficient, they seek additional aid or organise internal community donations."</i>
MAO 2	<i>"The community commonly relies on government resources and services. When expenses become overwhelming, they use personal savings or seek support from NGOs and zakat bodies, especially for medical or death-related cases."</i>
MAO 3	<i>"Government welfare and funeral assistance are available but may not always be sufficient. In such cases, settlers rely on community contributions or seek support from external donors, including political representatives and religious institutions."</i>
MAO 4	<i>"Most settlers rely on government support during hardship. For larger needs, such as medical emergencies, they seek additional assistance and use their limited savings to cover remaining expenses."</i>
MAO 5	<i>"When someone passes away, families receive government assistance but often rely on community fundraising, mosque donations, and personal savings to cover additional needs."</i>
Representative of the Rural Palm Oil Residents (POR)1	<i>"In cases of death, families receive assistance through official welfare funds. When this support is insufficient, we rely on help from relatives."</i>
POR2	<i>"We have some savings, but they are not always sufficient for emergencies such as house repairs or fire. We usually seek government assistance first and consider loans when additional funds are needed."</i>
POR3	<i>"Government assistance is available but often limited. We sometimes rely on community donations and financial contributions from family members."</i>
POR4	<i>"I usually seek assistance from government agencies first but rely on personal savings for emergencies. When necessary, I also borrow from the community or obtain external loans."</i>
Takaful agent	<i>"Most residents primarily rely on the government's official assistance, especially for funerals or emergencies. However, they often seek to borrow from family members when that support is insufficient. Some even organize small community collections or apply for external donations if the circumstances are truly critical."</i>

The second step of structured thematic analysis is to choose appropriate codes from the first transcripts. Researchers detected recurrent patterns, phrases, and essential elements and assigned them codes. The study's codes simplify complex textual data by translating it into a framework aligned with the research topics. As a result, Table 4 shows the descriptive codes gathered from transcription quotes.

Table 4: Extracted thematic analysis codes

Codes of challenges and Takaful	Codes of existing methods vs Takaful
• Irregular and Low Income • Lack of Awareness and Financial Literacy • Product Mismatch • High Dependency on Government Agencies' Assistance • Perceived High Cost of Takaful • Skepticism and Mistrust in Takaful • Limited Promotion and Outreach • Cultural and Social Norms	• Official Government Agencies' Welfare and Emergency Aid • Community-Based Internal Donations • Appeals to External Donors or Institutions • Supplementary Aid Requests to Government Agencies • Family Financial Support • Reliance on Own Savings • Borrowing or Taking Loans • Perceived Dependence on Official Government Agencies • Inadequate Financial Preparedness • Multi-Strategy Coping Mechanisms

The third and fourth steps developed the best themes and subthemes. Organising codes into coherent groupings to illustrate trends and correlations helps answer the study topic. To meet study goals, researchers defined these notions as subthemes and developed them. Tables 5 and 6 present qualitative study results on themes and subthemes related to rural communities' challenges in adopting Takaful products and services, as well as their existing methods for managing financial disruptions and unexpected events, including deaths.

Table 5: Themes and sub-themes of the challenges faced by rural palm oil plantation communities in accessing takaful products or services

Theme	Subtheme
• Economic Constraints and Affordability to Own Takaful • Knowledge and Literacy Barriers • Mismatch Between Takaful Products and Community Realities • Institutional Dependency • Trust and Credibility Concerns	– High contribution costs – Non-fixed income – Limited exposure to Takaful – Inaccurate and unclear information about Takaful – Limited Takaful contribution method – Takaful products that are not balanced between the value of contributions and the promised benefits – Inflexible Takaful ownership requirements – Takaful products that do not meet the main needs of the studied rural community – Government agencies' consistent support specifically for the elderly – Psychological Reliance on official government agencies – Ancillary assistance from related sub-government agencies and different rural community groups – Complicated claims process – Takaful agent unknown to the rural palm oil plantation estate community – Inefficient Takaful agent

Table 6: Themes and sub-themes of existing methods used by the rural palm oil plantation estate communities to deal with financial disruptions, unexpected events/deaths

Theme	Subtheme
• Obtain Official Welfare, Emergency, and Death Assistance, or Get Additional Help from Government Agencies	– Structured welfare assistance – Case-by-case support via requests – Hybrid financial responses
• Applying for Donations from External Parties	– Engagement with external organizations – Loans and credit solutions
• Apply for Donations from The Rural Community	– Internal community fundraising – Kinship-based financial assistance
• Utilizing One's Savings	– Use of personal savings – Lack of financial security

The next stage involved interpreting how the codes, themes, and subthemes were connected. The discussion below relates these interpretations to earlier research while retaining the distinction between what participants reported and what can reasonably be inferred from their accounts.

4.1.1. Challenges and Takaful adoption

No barrier to the adoption of Takaful was mentioned by participants. Instead, their accounts indicated an interplay between household income, knowledge, product design, institutional dependence and confidence in providers.

Cost was always an issue. Where residents saw the value of protection, those on irregular or low incomes struggled to make fixed and ongoing contributions. This experience is akin to the problem reported by Ghani *et al.* (2021) that low-income households may face difficulty to continue micro-Takaful payments in the case of income instability. There is also evidence from Malaysia that income and employment conditions are related to demand for takaful (Mohamad *et al.* 2024). Affordability problems still exist for low income groups (Ishak 2020). Likewise, the review by Ansari (2022) also reveals that economic conditions and perceived compatibility are consistently related to the acceptance of Takaful. In this case, then, the question was not just the price of a plan, but whether the payment schedule could be sustained on uncertain household income.

Another difficulty was knowledge, although the interviews suggest that the problem was more than just having heard of Takaful. Some participants were unsure how the protection worked, what benefits they could expect, or how it compared to conventional insurance. Uncertainty was increased by ambiguous or conflicting information. Previous studies in Malaysia have reported uneven understanding of Takaful and the significance of education to enhance the informed participation (Hassan *et al.* 2018; Yakob *et al.* 2019; Arifin *et al.* 2024). This means that outreach should be targeted to the language, experience and financial situation of the intended community rather than a general promotional message.

Participants also asked if the products on offer were suitable for their circumstances. Some respondents found it difficult to have fixed contribution arrangements if their household received a seasonal income. Some respondents did not believe the benefits from the scheme were worth the amount paid. Previous research on the Malaysian Takaful industry and low-income consumers have investigated product mismatch (Mansor *et al.* 2015; Eldaia *et al.* 2020; Jahya *et al.* 2023; Malik & Sulaiman 2024). Similarly, AlNemer (2015) linked dissatisfaction to rigid structures and low value perception. This suggests the need to design simpler products with contribution alternatives and benefits that are easily understood by rural households.

Another theme was the role of established government agencies and other local support structures. Some residents, especially older ones, had less urgency to get separate protection because they had been helped during earlier emergencies. It is not a rejection of Takaful *per se* but a check of the need of the current support environment. And trust issues only reinforced that stance. The difficulty of the claims, the confusion about the procedures, the lack of knowledge of the agents and the doubts about the effectiveness of the service made the residents hesitate before committing themselves to a plan. Moreover, previous research has connected Takaful demand and participation with institutional dependence, agent trustworthiness, and service transparency (Remli *et al.* 2018; Shaladdin *et al.* 2018; Shukor 2020; Poan *et al.* 2022). Thus, confidence here is not a matter of further promotion but of continued local participation and of clearly reliable service.

4.1.2. Existing methods of facing unexpected events versus Takaful adoption

The second part of the qualitative analysis considered what residents already do when a household faces a major expense, emergency, or death. Their responses show that coping is usually assembled from several sources rather than obtained through one formal mechanism. Government welfare, emergency, and death assistance formed the first line of support for many participants. Where official assistance was not enough to meet the total cost, households relied on relatives, neighbours, community collections, religious or charitable organisations and, in some cases, loans. These arrangements indicate the strength of local social ties and are consistent with research linking social capital and community participation to rural resilience (Hoe *et al.* 2018; Yang *et al.* 2024). At the same time, the availability of these sources may make the immediate need for a separate Takaful plan appear less pressing. The interviews also showed the limits of this coping system. Personal savings were often small, donations were uncertain, and borrowing shifted the financial burden into the future. Earlier studies similarly note that low-income households may rely on savings, zakat, and community assistance because formal insurance or Takaful coverage is limited (Mohd & Abdul Rahman 2012; Jahya *et al.* 2023). Existing practices therefore provide important short-term support, but they do not necessarily offer predictable or adequate protection for larger losses.

The final stage of the thematic analysis brought these two sets of findings together. Figure 2 summarises how adoption barriers and a reactive, multi-source coping system may jointly contribute to low intention to subscribe to Takaful in the study community.

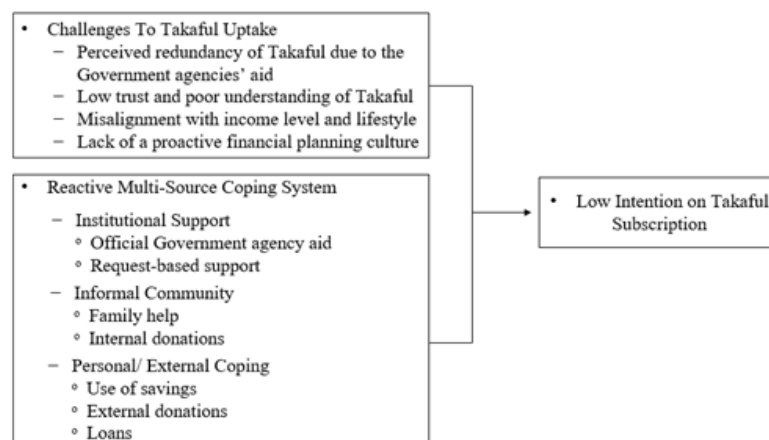


Figure 2: Takaful challenges and reactive coping in the studied rural community

4.2. Quantitative Outcome

The results present the development of items from the early qualitative study using exploratory factor analysis (EFA), along with the reliability and validation of the factors for the quantitative phase. This is followed by multiple regression analysis to examine how these factors influence the community's intention to adopt Takaful.

4.2.1. Content and face validity of the instrument

The preliminary findings present the results of the content validity assessment. Experts reviewed the questionnaire and gave all items high scores (3 or 4), resulting in S-CVI/Ave and S-CVI/UA scores of 1.00 across the three domains (Table 7). In addition, feedback from 27 respondents regarding face validity primarily focused on the questionnaire's clarity, suitability, and language. Based on this feedback, the authors improved the instrument to ensure it was appropriate for the pilot study.

Table 7: The relevance rating on the item scale by four experts

Domain (Items)	Academic		Government agency		Experts in Agreement	I-CVI	UA
	Expert 1	Expert 2	Expert 1	Expert 2			
CPFTP							
Q1	4→1	4→1	4→1	4→1	4	1	1
Q2	4→1	4→1	3→1	3→1	4	1	1
Q3	4→1	4→1	4→1	4→1	4	1	1
Q4	4→1	4→1	3→1	4→1	4	1	1
Q5	4→1	4→1	4→1	4→1	4	1	1
					S-CVI/AV	1	
Proportion relevance	1	1	1	1	S-CVI/UA		1
Average proportion of items judged as relevant across four experts					1		
EMUFP							
Q1	4→1	4→1	4→1	4→1	4	1	1
Q2	4→1	4→1	4→1	4→1	4	1	1
Q3	4→1	4→1	4→1	4→1	4	1	1
Q4	4→1	4→1	4→1	4→1	4	1	1
					S-CVI/AV	1	
Proportion relevance	1	1	1	1	S-CVI/UA		1
Average proportion of items judged as relevant across four experts					1		
IPFT							
Q1	4→1	4→1	4→1	4→1	4	1	1
Q2	4→1	4→1	4→1	4→1	4	1	1
Q3	4→1	4→1	4→1	4→1	4	1	1
Q4	4→1	4→1	4→1	4→1	4	1	1
Q5	3→1	3→1	4→1	4→1	4	1	1
					S-CVI/AV	1	
Proportion relevance	1	1	1	1	S-CVI/UA		1
Average proportion of items judged as relevant across four experts					1		

Note: Challenges of Purchasing Family Takaful Products (CPFTP); Existing Methods to Deal with Unexpected Financial Problems (EMUFP); Intention to purchase Family Takaful (IPFT).

Degree of relevance: 1= the item is not relevant to the measured domain; 2= the item is somewhat relevant to the measured domain; 3= the item is quite relevant to the measured domain; 4= the item is highly relevant to the measured domain. Relevance rating: 0→ (scale of 1 or 2) and 1→ (scale of 3 or 4) (source: Yusoff 2019)

4.2.2. Exploratory Factor Analysis (EFA)

The second part of the quantitative study used exploratory factor analysis (EFA) on 100 pilot study datasets to refine the scale items and group related questions into the same components. Principal axis factoring with varimax rotation was applied. The analysis identified two main components that represent barriers to Takaful adoption in the studied rural communities.

To test whether the data were suitable for factor analysis, the Kaiser–Meyer–Olkin (KMO) and Bartlett’s Test of Sphericity were examined. The KMO value was 0.862, which is above the recommended level of 0.60, indicating adequate sampling. Bartlett’s Test was also significant ($p < 0.05$), confirming that the variables are sufficiently correlated. These results show that the data are appropriate for EFA and further analysis (Table 8).

Table 8: KMO and Bartlett’s test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.862
Bartlett's Test of Sphericity	Approx. Chi-Square
	666.801
	df
	36
	Sig.
	<.001

After conducting the KMO and Bartlett’s tests, the total variance explained was examined during item extraction to reduce the number of items before further analysis. In EFA, components with eigenvalues greater than 1.0 are retained (Mustafa *et al.* 2024).

The results show that two components were extracted. Factor 1 had an eigenvalue of 5.496, while Factor 2 had an eigenvalue of 1.176 (Table 9). Together, these components explained 74.133% of the total variance. Since this exceeds the acceptable minimum of 60% (Awang *et al.* 2017; Baistaman *et al.* 2022), the results are considered adequate for further analysis.

Table 9: The components and total variance explained of the barriers to the Takaful adaptation (n=100)

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.496	61.061	61.061	5.178	57.538	57.538
2	1.176	13.072	74.133	.891	9.898	67.436

Extraction Method: Principal Axis Factoring.

Table 10: The final EFA results of the rotated component matrix for barriers to adopting Takaful products

Rotated Factor Matrix ^a			
Factor	Item statement	Factor loading	
		1	2
• Challenges in owning takaful products or services.	– Lack of trust in the product and service	.815	
	– Products do not meet the needs of the rural palm oil plantation estate communities	.777	
	– Lack of knowledge on protection and product awareness	.746	
	– Financial capability change decision	.700	
	– Being too reliant on the government agencies' support	.614	
• Existing methods to deal with financial disruptions, unexpected events/deaths.	– Requesting donations from the community (e.g., NGOs)		.863
	– Applying for donations or funds from external parties (e.g., Banks)		.850
	– Obtaining welfare and death benefits from the government agencies		.731
	– Using own savings		.632

Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.

^a. Rotation converged in 2 iterations.

In the EFA, the rotated component matrix (Varimax) was examined, and only items with factor loadings above 0.6 were kept for further analysis (Table 10). The results show that the barriers to Takaful adoption consist of two components (sub-constructs), and no items had cross-loadings between the components. Factor loadings indicate how well each item represents its underlying factor.

4.2.3. Effect of study research variables on the intention of Takaful adoption

For this section, the study combined two validated components (Challenges in owning takaful products or services and Existing methods to deal with financial disruptions, unexpected events/deaths) from the qualitative analysis, tested using EFA, with the dependent variable (intention to adopt Takaful) based on existing literature. The questionnaires were distributed online through Google Forms, and 1,119 valid responses were collected from rural palm oil plantation communities across Malaysia.

The results show high reliability among the study variables (Table 11). Cronbach's alpha was used to assess internal consistency, with values above 0.7 considered acceptable reliability (Fornell & Larcker 1981). According to Hinton *et al.* (2004), as cited by Daud *et al.* (2022), reliability levels are classified as excellent (>0.90), high ($0.70-0.90$), moderate ($0.50-0.70$), and low (<0.50).

Table 11: Reliability test (n=1199)

Factors	Items	Cronbach's alpha
Challenges	5	0.898
Existing method	4	0.866
Intention of Takaful adoption	5	0.971

Following the reliability analysis, descriptive statistics from the multiple regression study were examined, showing the mean and standard deviation of 1,199 respondents. Data were collected evenly from the eleven settlements in the target rural community, representing about 1% of the total population across Malaysia. Table 12 presents the descriptive statistics of the study variables.

Table 12: Descriptive statistics of all variables (Factor Structure)

Variables	Mean	Std. Deviation	N
Intention to purchase Family Takaful	3.5373	0.86864	1199
Challenges of Takaful adaptation	2.4559	0.76839	1199
Existing coping methods	2.3670	0.74000	1199

The results show that, on average, challenges related to Takaful adoption have a slightly greater impact on the intention to purchase family Takaful than the communities' existing coping methods for handling unexpected events. Multicollinearity between the predictors was not an issue, as their Pearson correlation was 0.65 (below 0.7). Collinearity statistics also confirmed this, with Tolerance = 0.574 and VIF = 1.742. Both predictors were sufficiently correlated with the outcome variable (above ± 0.3). Multiple regression analysis found a moderate negative correlation between challenges and Takaful intention ($r = -0.384$, $p < 0.001$) and between coping methods and Takaful intention ($r = -0.507$, $p < 0.001$). This means that as barriers to Takaful adoption or reliance on existing coping strategies increase, the intention to adopt Takaful decreases. These findings highlight the importance of education and awareness programs to improve understanding of Takaful products in rural communities.

The coefficient of determination ($R^2 = 0.262$) shows that these two factors explain 26.2% of the variation in Takaful adoption intention. Table 13 presents the multiple correlation coefficient R^2 and the adjusted R^2 .

Table 13: Model summary for Takaful adoption intention

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	0.512 ^a	0.262	0.261	0.74693

a. Predictors: (Constant), Challenges, Existing method

The F-ratio [$F(2, 1196) = 212.104, p < 0.001$] indicates that the regression model fits the data well. This means that both challenges to Takaful adoption and the communities' existing coping strategies significantly predict the intention to purchase family Takaful.

Table 14 shows how the dependent variable (Takaful adoption intention) changes with each independent variable when the other is held constant. The regression equation is:

$$Y = 5.035 + (-0.105) X_1 + (-0.523) X_2 \quad (3)$$

Here, X_1 is the challenges of Takaful adoption (CTA), and X_2 is existing coping methods (ECM). Each one-unit increase in CTA reduces Takaful intention by 0.105 units, while each one-unit increase in ECM reduces it by 0.523 units. This indicates that ECM is the stronger predictor. The p-values (<0.05) confirm that these relationships are statistically significant.

Table 14: Beta coefficient summary for intention to purchase family Takaful

Dependent Variable Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	p-value	95.0% Confidence Interval for B	
		B	Std. Error				Beta	Lower Bound
1	(Constant)	5.035	.079		63.810	.000	4.880	5.190
	CTA ^b	-.105	.037	-.093	-2.846	.005	-.178	-.033
	ECM ^b	-.523	.038	-.446	-13.597	.000	-.599	-.448

a. Dependent Variable: Intention to purchase Family Takaful (IPFT)

b. Challenges of Takaful adaptation (CTA), existing coping methods (ECM)

The results reveal that both components (CTA and ECM) have a negative impact on the adoption intention of Takaful, thus highlighting the need to address the issues, while formulating suitable Takaful plans for rural communities. Furthermore, the analysis shows that the existing coping mechanisms for unforeseen events are more of a deterrent to Takaful uptake than the challenges associated with Takaful itself. Some of the barriers are due to lack of knowledge or lack of trust but a major problem is that the community depends on informal or temporary support systems even when they are aware of Takaful.

Overall, financial instability, lack of knowledge and trust, product mismatch, reliance on government assistance and complex community-based financial practices reduce willingness to adopt Takaful. The findings are in line with earlier research that has highlighted the significance of uncertainty, perceived complexity, and institutional dependence in the acceptance of financial innovations (AlNemer 2015; Remli & Rosman 2018; Hassan *et al.* 2018; Ansari 2022; Poan *et al.* 2022; Jahya *et al.* 2023; Malik & Sulaiman 2024; Mohamad *et al.* 2024; Arifin *et al.* 2024).

Thus, this study assessed three main areas: the challenges that prevent Takaful adoption; the coping methods adopted by rural communities in dealing with financial shocks resulting from unforeseen events or death; and the effect of these factors on Takaful demand among rural palm oil plantation communities in Malaysia.

The study recommends the following based on the mixed-method findings: (1) flexible micro-Takaful schemes that are suited to irregular income flows, (2) targeted community-based education initiatives, (3) outreach models using locally trained agents and simplified claims processes, and (4) culturally embedded micro-Takaful schemes which complement existing informal systems and enhance financial security and coverage. The results show that both components (CTA and ECM) negatively affect the intention to adopt Takaful, implying that these issues need to be addressed in the development of suitable Takaful plans for rural communities. Further analysis shows that the existing coping mechanisms for unexpected events are more discouraging for Takaful adoption than the challenges of Takaful itself. While some barriers are due to lack of knowledge or trust, a major issue is the community's reliance on informal or temporary support systems even when Takaful is known.

To summarize, financial instability, lack of knowledge and trust, product mismatch, dependence on government assistance and complex community-based financial practices reduce the willingness to adopt Takaful. These findings are in line with prior studies which have emphasized the significance of uncertainty, perceived complexity and institutional dependence on the acceptance of financial innovations (AlNemer 2015; Remli & Rosman 2018; Hassan *et al.* 2018; Ansari 2022; Poan *et al.* 2022; Jahya *et al.* 2023; Malik & Sulaiman 2024; Mohamad *et al.* 2024; Arifin *et al.* 2024).

Therefore, this study aimed to investigate three main aspects, which are the challenges in adopting Takaful, the coping mechanism adopted by rural communities to solve financial disturbances caused by unforeseen events or death, and the effect of these factors on the demand for Takaful among the rural palm oil plantation communities in Malaysia.

The mixed qualitative and quantitative findings point to the following recommendations: (1) flexible micro-Takaful schemes modified to accommodate irregular income, (2) community-based educational programs, (3) outreach models with locally trained agents and simple claims processes, and (4) culturally embedded micro-Takaful schemes which complement existing informal support systems and improve financial security and uptake of formal coverage.

5. Conclusion

The present research examined the key challenges impeding the adoption of Takaful, the coping mechanisms used to manage financial shocks, and the effect of these factors on the prospects of Takaful adoption amongst rural communities. The results, based on a sequential mixed-method approach with focus groups and structured questionnaires, reveal that the main barriers to Takaful uptake are financial instability, low awareness and trust, product mismatch and reliance on government institutions. These problems are closely associated with the socio-economic status of the rural community particularly among the older settlers.

The study also showed that many settlers rely on a mix of institutional support and informal mechanisms, such as family assistance, community fundraising and personal savings, to cope with unexpected financial needs. Such practices may serve to reduce the perceived need for formal protection such as Takaful, despite being characterized by strong social support networks. The quantitative results also indicate that these existing coping methods may be more of a barrier to implementation than individual constraints.

The findings have several practical implications for Takaful operators, policymakers and related government agencies to enhance Takaful adoption in rural communities, particularly in palm oil plantation settlements.

First, Takaful providers need to create more flexible and affordable micro-Takaful products that are more in tune with the income patterns of rural households. • flexible contribution schedules and payment mechanisms (e.g. seasonal or income-based contributions) considering that many settlers have irregular earnings. Products should be simplified and clearly targeted to the real needs of rural families, including health protection, death benefits and basic financial security.

Secondly, there is an urgent need to enhance the awareness and financial literacy programmes on Takaful. Most rural dwellers are aware of Takaful but resort to informal coping mechanisms. Government agencies and Takaful operators should work together to establish focused education programmes in settlements, using community-based methods, local leaders and straightforward communication methods to improve understanding, trust and perceived value of Takaful.

Third, the research points to the importance of establishing confidence through community engagement. Local trained Takaful agents from the community can be hired to reduce skepticism, improve communication and make services more accessible. Furthermore, streamlining claims procedures and enhancing service responsiveness can also help in instilling confidence in Takaful institutions.

Fourth, policymakers should consider the option of connecting Takaful initiatives with the existing institutional and community support systems. Rural communities already rely on government support and informal financial structures, and Takaful schemes should work alongside these, not replace them. A hybrid approach that combines formal protection with existing social practices could lead to greater acceptance and participation.

Finally, the findings imply that policy interventions should consider both awareness and structural barriers such as product suitability, accessibility and financial constraints. Addressing such practical issues could help increase Takaful participation and improve financial resilience among rural communities in Malaysia.

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