
**Effect of Facultative Proportional Reinsurance on Accumulation Risk
Management: A Case of Sanlam Allianz -Tanzania**

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Abstract

The study sought to determine the effect of facultative proportional reinsurance on accumulation risk management using Sanlam Allianz, a general insurance company in Dar es Salaam, as a case study. The study was grounded in Enterprise Risk Management Theory. A case study design was used at Sanlam Allianz, where data were collected and analyzed to examine relationships among variables. The study found that facultative proportional reinsurance supports accumulation risk management through risk-sharing arrangements, though its effectiveness depends on consistent application of terms. The study concluded that facultative reinsurance practices significantly influence accumulation risk management at Sanlam Allianz, depending on underwriting discipline, consistency, and capacity use. The study recommends strengthening proportional reinsurance structures, improving risk selection, and enhancing efficient capacity utilization. Further studies should examine other reinsurance types and extend to other insurers in Tanzania.

Keywords: Facultative Proportional Reinsurance, Risk, Accumulation Risk Management, Insurance.

1.0. Introduction

Accumulation risk management in insurance is strongly influenced by facultative reinsurance practices, which help insurers spread exposure, control large losses, and improve underwriting stability (Alan & Avcı, 2022). Globally, accumulation risk management has become a key concern due to rising catastrophe events and complex insurance portfolios (Mesyef, 2024). In America, Al Dhaheri et al. (2024) noted that ineffective risk selection and adverse selection problems continue to challenge Canadian insurers despite regulatory frameworks. In Europe, Freudlsperger (2025) indicated that reinsurance structures have increasingly been used as governance tools to reduce systemic risk across insurance markets. In the United Kingdom, Upreti et al. (2022) observed that weak risk transfer strategies increase the cost of equity for non-life insurers, showing how poor reinsurance utilization affects financial stability. In Asia, Shang et al. (2025) found that Chinese insurers rely heavily on reinsurance and investment strategies to manage catastrophe risks, while Mahacintya et al. (2025) in Indonesia showed that operational

inefficiencies in facultative reinsurance administration increase exposure accumulation. Despite these mechanisms, Kilani et al. (2024) also highlighted that global insurers still face accumulation risk challenges, especially under climate-related and large-scale catastrophic events.

In Africa, accumulation risk management remains weak due to limited reinsurance penetration and underdeveloped risk assessment systems (Khoualed et al., 2025). Marangwanda (2025) asserted that reinsurance is still not fully utilized as a governance tool in many African insurance markets, leading to high exposure concentration. In Kenya, Gatimu et al. (2024) observed that poor treaty optimization increases accumulation risk and reduces insurer performance. In Nigeria, Akpan et al. (2025) indicated that high risk retention levels weaken reinsurance effectiveness and increase claim volatility. In Ethiopia, Chinnapareddy et al. (2026) found that non-life insurers struggle with risk balancing due to weak facultative reinsurance structures. In Somalia, Sheikhnor (2024) indicated that limited insurance development and weak regulatory systems make accumulation risk harder to control. In South Africa, Dube and Pharoah (2025) showed that disaster-related claims continue to strain insurance capacity due to inadequate reinsurance planning. However, Gatimu et al. (2024) noted that most of African insurers experience high accumulation risk exposure because of limited facultative reinsurance capacity and weak risk selection practices.

Accumulation risk remains an important challenge for insurance companies, particularly when facultative proportional reinsurance is not properly applied to manage exposures (Afriyie et al., 2024). At SanlamAllianz Tanzania, concerns have been raised about the effectiveness of facultative proportional reinsurance, particularly in relation to the selection of risks and the use of available reinsurance capacity (Momburi, 2025). When facultative proportional reinsurance is not adequately utilized, the insurer may retain a large share of risks within its portfolio. This can increase the level of exposure, especially when several claims arise from related or concentrated risks.

Mhella (2024) observed that weaknesses in facultative reinsurance administration can delay the transfer of risks and leave insurers carrying higher exposures than expected. Similarly, Juma and Mlaponi (2024) noted that inadequate reinsurance arrangements may expose insurance companies to heavy losses, liquidity difficulties and financial pressure. In this situation, appropriate risk selection and effective use of reinsurance capacity form part of how facultative proportional reinsurance is applied in practice. Where high-risk policies are accepted without adequate consideration of their exposure, or available reinsurance capacity is not fully utilized, the insurer may retain more risk than is appropriate. Kagaigai and Grepperud (2023) further reported that weaknesses in reinsurance operations can increase exposure to unexpected losses. Mwinuka (2024) also found that facultative reinsurance practices among insurers are not always fully optimized, which may contribute to accumulation risk.

Evidence from other settings shows that reinsurance can be used more systematically to manage the concentration of risks. Freudlsperger (2025) noted that European insurers use reinsurance not

only for risk transfer but also as part of wider risk governance. In the United Kingdom, Upreti et al. (2022) found that weaknesses in risk management can increase financial exposure. Shang et al. (2025) reported the use of structured reinsurance arrangements for catastrophe risk management in China, while Marangwanda (2025) observed continuing challenges in effective reinsurance use among African insurers. Gatimu et al. (2024) also linked weak reinsurance optimization with increased risk concentration among insurers in Kenya.

Although these studies provide useful evidence on reinsurance and risk management, limited attention has been given to facultative proportional reinsurance as a single construct in relation to accumulation risk management among insurance companies in Tanzania. In particular, there is limited empirical evidence on how the overall application of facultative proportional reinsurance, including appropriate risk selection and utilization of available reinsurance capacity, contributes to controlling accumulated risks. This gap provided the basis for the present study, which examined the effect of facultative proportional reinsurance on accumulation risk management at SanlamAllianz Tanzania.

2.0 Literature Review

2.1 Enterprise Risk Management Theory

Enterprise Risk Management (ERM) Theory was developed from the works of COSO (Committee of Sponsoring Organizations of the Treadway Commission) in 2004 and later refined in 2017. The theory explains a holistic approach to managing all types of risks within an organization in an integrated manner rather than handling risks separately. According to Gatimu et al. (2024), ERM is a continuous process that identifies, assesses, manages, and monitors risks that may affect the achievement of organizational objectives. It emphasizes coordination across all departments to ensure risks are managed within acceptable risk appetite levels. In the insurance sector, ERM is widely used to control underwriting risk, market risk, and accumulation risk through structured governance and reinsurance mechanisms (Mahacintya et al., 2025). However, Maranga and Ouma (2023) noted that ERM also depends heavily on data quality and management commitment for effective implementation, especially in developing markets like Africa.

ERM Theory has several strengths and weaknesses. Marangwanda (2025) asserted that the major strength is that it provides a comprehensive and integrated approach to risk management, ensuring that all risks are identified and managed in a unified system rather than in isolation. It also improves decision-making by linking risk management to organizational objectives, which enhances financial stability and performance (Freudlsperger, 2025). However, the theory has limitations, including high implementation costs and complexity, especially for organizations with weak systems and limited technical capacity (Shang et al. (2025). According to Alan and Avc (2022), many firms struggle with ERM adoption due to lack of skilled personnel and inadequate risk culture. In addition, the effectiveness of ERM depends on consistent monitoring and strong leadership support, which may be weak in some insurance markets (Upreti et al., 2022).

This theory was relevant in this study because it directly supported the management of accumulation risk through structured reinsurance strategies. It was used to assist the researcher in analyzing how facultative proportional reinsurance contributed to overall risk control at SanlamAllianz Tanzania. The theory was also used to help in understanding how insurance firms integrated different reinsurance decisions into a unified risk management framework to reduce exposure concentration. Furthermore, this theory was used to assist the researcher in evaluating whether weaknesses in facultative reinsurance processes led to poor accumulation risk management.

2.2 Empirical Literature Review

Shang et al. (2025) examined how Chinese insurance companies make investment and reinsurance decisions when facing catastrophe risks. The study applied a quantitative modelling approach using stochastic optimization to assess insurer behaviour under different catastrophe situations. The findings showed that proportional reinsurance can help insurers reduce the impact of extreme losses and improve risk stability. However, the study also noted that excessive use of reinsurance may affect profitability. The study is useful in showing the importance of risk sharing, but its main limitation is that it was based on modelling rather than evidence from the day-to-day operations of an insurance company. It also considered proportional reinsurance generally and did not specifically examine facultative proportional reinsurance. This leaves a practical gap concerning how such arrangements are used by individual insurers, particularly in developing insurance markets. The present study addresses this gap by examining facultative proportional reinsurance at SanlamAllianz Tanzania and its contribution to accumulation risk management.

Khoualed et al. (2025) studied the development of reinsurance supply in Algeria, with particular attention to changes in market structure and available reinsurance capacity. The researchers relied mainly on secondary information and regulatory reports. Their findings suggested that limited reinsurance capacity can weaken risk sharing and leave insurers with greater exposure to accumulated risks. They further observed that weaknesses in the distribution of reinsurance capacity may reduce the benefits of risk diversification. Although these findings are relevant to understanding the wider role of reinsurance, the study looked at the issue largely from a market level. It did not explain what happens within an individual insurance company when decisions are made on facultative proportional reinsurance. The study therefore provides limited evidence on how insurers themselves use facultative arrangements to manage accumulated exposure. The current study takes a firm-level approach by examining SanlamAllianz Tanzania and assessing whether facultative proportional reinsurance contributes to accumulation risk management.

Chinnapareddy et al. (2026) investigated factors influencing the performance of non-life insurance companies in Ethiopia. The study used a mixed-method approach involving survey information from insurance professionals and regression analysis. The findings indicated that reinsurance arrangements can strengthen financial stability and the ability of insurers to absorb losses. The study also found that weak underwriting practices may increase exposure to risks that accumulate across an insurance portfolio. These findings are important because they connect

reinsurance decisions with the broader management of insurance risk. However, reinsurance was treated as a wider factor and the study did not separate facultative proportional reinsurance from other forms of reinsurance. As a result, it is difficult to determine the specific contribution of facultative proportional reinsurance to accumulation risk management. This study responds to that limitation by focusing on one reinsurance arrangement and examining its effect within SanlamAllianz Tanzania.

Gatimu et al. (2024) examined reinsurance treaty optimization and its relationship with the performance of insurance firms in Kenya. The study used a descriptive survey design and regression analysis. Its findings showed that properly structured reinsurance treaties can improve the distribution of risk and reduce concentration of claims within insurance portfolios. The study further indicated that poor reinsurance arrangements may leave insurers with higher exposure when several claims arise at the same time. Despite this contribution, the study concentrated on treaty arrangements. Facultative reinsurance differs from treaty arrangements because individual risks can be considered and negotiated separately. Therefore, the findings cannot fully explain how facultative proportional reinsurance works at the individual risk selection level. The present study builds on this work by shifting attention from treaty optimization to facultative proportional reinsurance and examining its role in accumulation risk management at SanlamAllianz Tanzania.

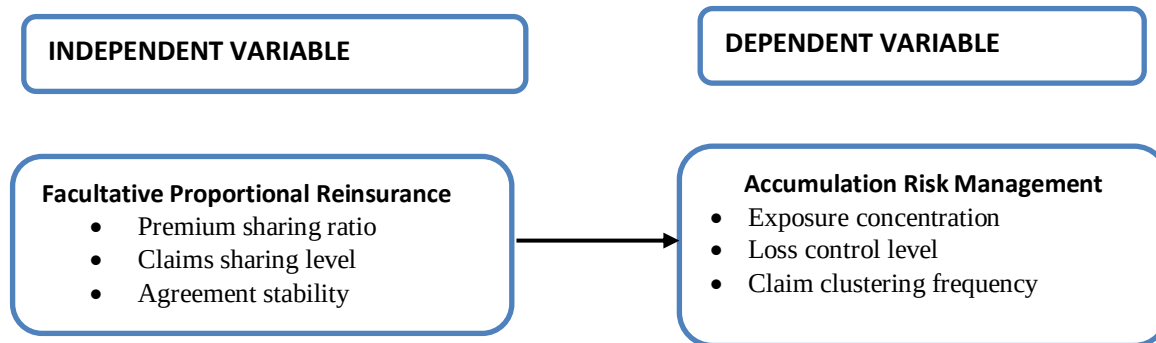
Afriyie et al. (2024) examined the role of the National Health Insurance Fund in improving insurance coverage and quality of healthcare services in Tanzania. The study used a cross-sectional approach and combined survey information with administrative data. The findings showed that effective risk-pooling arrangements can improve service stability and reduce financial pressure on an insurance system. The study also pointed to problems that may arise when risk-sharing arrangements are weak. Although the study provides useful evidence on risk pooling and risk sharing within insurance, its focus was health insurance rather than commercial general insurance. It therefore does not provide direct evidence on the use of facultative proportional reinsurance in managing accumulation risk. Its relevance to the present study is mainly in demonstrating the wider importance of sharing and distributing insurance risks. The current study extends this discussion into the general insurance sector by examining facultative proportional reinsurance at SanlamAllianz Tanzania.

3.0 Conceptual Framework and Methodology

3.1 Conceptual Framework

Guided by the ERM theory, this study conceptualizes facultative proportional reinsurance, as key independent variable influencing how accumulation risk is managed at SanlamAllianz Tanzania.

Figure 3.1 Conceptual Framework



Source: Researcher (2025).

This study conceptualizes accumulation risk management as the dependent variable influenced by facultative reinsurance practices within insurance operations. Accumulation risk management refers to the process of controlling exposure from multiple related insurance risks that may result in large simultaneous losses (Upreti et al., 2022). It is measured through exposure concentration, loss control, and claim clustering patterns. Facultative proportional reinsurance is viewed as a risk-sharing arrangement where premiums and claims are distributed between insurer and reinsurer in agreed proportions, helping to stabilize large exposures (Mesyef, 2024).

The study adopted an explanatory research design to examine the effect of facultative proportional reinsurance on accumulation risk management at SanlamAllianz Tanzania. The design was selected because the study aimed to establish whether changes in facultative proportional reinsurance practices were associated with changes in accumulation risk management. The study used a quantitative approach, where information was collected in numerical form and analysed statistically. The study was conducted at SanlamAllianz offices in Dar es Salaam. The location was selected because it is an important centre for the company's underwriting, claims, reinsurance and risk management activities. The target population consisted of 141 employees who were directly or indirectly involved in these activities.

The study measured two main constructs, namely facultative proportional reinsurance and accumulation risk management. Facultative proportional reinsurance was the independent variable. It was measured using questionnaire statements covering issues such as risk sharing with reinsurers, allocation of premiums and losses, adequacy of reinsurance capacity, application of agreed reinsurance terms and the use of proportional arrangements in managing insurance exposures. Accumulation risk management was the dependent variable. It was measured through statements relating to the identification, monitoring and control of concentrated insurance risks, management of exposures arising from similar or related risks, and the ability of the company to limit the effect of accumulated losses. Respondents indicated their level of agreement with each statement using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

Agree. The use of several statements for each construct helped the researcher to capture the variables from different aspects rather than relying on a single question.

A census sampling technique was used because the target population of 141 employees was considered manageable. All employees who met the study criteria were therefore included in the target population. Questionnaires were distributed to the identified respondents, and only questionnaires that were properly completed and returned were included in the final analysis.

Primary data were collected using a structured questionnaire. The questionnaire consisted mainly of closed-ended statements arranged according to the study variables. Before the main data collection, the questionnaire was reviewed to ensure that the statements were clear and related to the objectives of the study. The responses were coded and entered into SPSS version 26 for analysis. Descriptive statistics, including frequencies, means and standard deviations, were used to summarize the responses. Pearson correlation analysis was then used to establish the direction and strength of the relationship between facultative proportional reinsurance and accumulation risk management. Regression analysis was used to determine the extent to which facultative proportional reinsurance predicted accumulation risk management. The regression model was specified as follows:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where: Y = Accumulation Risk Management

β_0 = Constant term

β_1 = Regression coefficient for facultative proportional reinsurance

X_1 = Facultative Proportional Reinsurance

ε = Error term

Reliability of the questionnaire was tested using Cronbach's Alpha coefficient. The coefficient ranged from 0 to 1, where higher values indicated stronger internal consistency. A threshold of 0.70 and above was considered acceptable for reliability. According to Mweshi and Muhyila (2024), Cronbach's Alpha is widely used in social science research to ensure consistency of measurement instruments. Hongkui (2025) also noted that reliable instruments reduce measurement error and improve the stability of research findings.

Table 1: Reliability Statistics

Variables	Cronbach's Alpha	N of Items
Facultative Proportional Reinsurance	.799	10

Source: Field Data (2026).

Table 1 presents the reliability statistics of the study variables measured using Cronbach's Alpha coefficient. The results show that facultative proportional reinsurance recorded a Cronbach's Alpha value of 0.799, indicating acceptable internal consistency of the measurement scale.

The study followed ethical guidelines provided by ESAMI. A formal letter of introduction was obtained and submitted to SanlamAllianz management before the data collection exercise started. Participation was voluntary, and respondents were informed about the purpose of the study before completing the questionnaire. No names or other personal identifiers were recorded on the questionnaires. The information obtained from respondents was treated confidentially and was used only for academic purposes. The researcher also acknowledged and referenced information obtained from other sources to avoid plagiarism. Ethical procedures were observed throughout the study to protect the respondents and maintain the credibility of the research process.

4.0 Findings

A total of 141 questionnaires were distributed to the selected respondents to collect primary data for the study. Out of these, 120 completed questionnaires were successfully returned and found suitable for analysis, representing a response rate of 85.1%. The remaining 21 questionnaires were either not returned or were incomplete and therefore excluded from the analysis. The response rate of 85.1% was considered adequate to provide reliable and representative data for achieving the study objectives. The objective of this study aimed to determine the effect of facultative proportional reinsurance on accumulation risk management. Findings are presented in Table 2.

Table :2 Facultative Proportional Reinsurance

Statements		VLR	LRE	ME	LE	NE	Mean	StD
Premium sharing between insurer and reinsurer is not clearly defined in most facultative agreements.	F	6	23	12	53	26	3.6	0.6
	%	5.0	19.2	10.0	44.2	21.7		
Proportional reinsurance arrangements are rarely applied to large insurance risks.	F	14	8	16	28	54	3.8	0.9
	%	11.7	6.7	13.3	23.3	45.0		
Loss sharing with reinsurers is inconsistent across different policies.	F	47	2	23	25	23	3.7	0.8
	%	39.2	1.7	19.2	20.8	19.2		
Facultative proportional terms are often changed without clear justification.	F	12	24	26	24	34	4.0	1.0
	%	10.0	20.0	21.7	20	28.3		
The company sometimes retains more risk than agreed in proportional contracts.	F	5	11	18	33	53	3.6	0.9
	%	4.2	9.2	15.0	27.5	44.2		
Proportional reinsurance agreements are not always documented properly.	F	10	24	20	38	28	3.6	0.8
	%	8.3	20.0	16.7	31.7	23.3		

There is weak coordination in applying proportional reinsurance structures.	F	4	52	18	14	32	3.4	1.2
	%	3.3	43.3	15.0	11.7	26.7		
Some risks are excluded from proportional reinsurance without clear reason.	F	7	9	24	62	18	3.6	1.1
	%	4.2	7.5	20.0	51.7	15.0		
Reinsurance partners do not always follow agreed proportional terms.	F	14	8	16	28	54	3.9	0.7
	%	11.7	6.7	13.3	23.3	45.0		
Proportional reinsurance does not always reduce exposure as expected.	F	10	26	8	52	24	4.2	0.9
	%	8.3	21.7	6.7	43.3	20.0		
COMPOSITE MEAN							3.78	

Key: NE= No Extent, LE= Little Extent, ME=Moderate Extent, LRE= Large Extent, VLR= Very Large Extent, StD = Standard Deviation

Source: Field Data (2026).

Findings revealed that premium sharing between insurer and reinsurer is not clearly defined in most facultative agreements, with 5.0% indicating very large extent, 19.2% large extent, 10.0% moderate extent, 44.2% little extent, and 21.7% no extent, with a mean of 3.6 and standard deviation of 0.6. This implies that premium sharing clarity is generally satisfactory, since most responses fall under little or no extent, suggesting stable practices at SanlamAllianz in defining responsibilities with reinsurers.

Findings on proportional reinsurance for large risks showed 11.7% very large extent, 6.7% large extent, 13.3% moderate extent, 23.3% little extent, and 45.0% no extent, with a mean of 3.8 and standard deviation of 0.9. This implies that proportional reinsurance is generally applied in managing large risks, indicating functional structures for risk distribution.

Results indicated loss sharing inconsistency across policies, with 20.8% very large extent, 1.7% large extent, 19.2% moderate extent, 39.2% little extent, and 19.2% no extent, with a mean of 3.7 and standard deviation of 0.8. This implies that inconsistencies exist at a low level, suggesting fairly stable loss sharing practices.

Findings showed facultative proportional terms are often changed without clear justification, with 10.0% very large extent, 20.0% large extent, 21.7% moderate extent, 28.3% little extent, and 20.0% no extent, with a mean of 4.0 and standard deviation of 1.0. This implies that contractual adjustments are generally controlled and not widespread.

Results showed the company sometimes retains more risk than agreed, with 4.2% very large extent, 9.2% large extent, 15.0% moderate extent, 44.2% little extent, and 27.5% no extent, with

a mean of 3.6 and standard deviation of 0.9. This implies that excessive retention is uncommon, indicating adherence to agreed terms.

Findings indicated reinsurance agreements are not always properly documented, with 8.3% very large extent, 20.0% large extent, 16.7% moderate extent, 31.7% little extent, and 23.3% no extent, with a mean of 3.6 and standard deviation of 0.8. This implies that documentation practices are fairly adequate and support accountability.

Results further revealed weak coordination in applying proportional structures, with 3.3% very large extent, 11.7% large extent, 15.0% moderate extent, 43.3% little extent, and 26.7% no extent, with a mean of 3.4 and standard deviation of 1.2. This implies that coordination is generally effective within SanlamAllianz.

Findings showed some risks are excluded without clear reason, with 5.8% very large extent, 7.5% large extent, 20.0% moderate extent, 51.7% little extent, and 15.0% no extent, with a mean of 3.6 and standard deviation of 1.1. This implies that unjustified exclusions are limited and underwriting is largely guided.

Results indicated that reinsurance partners do not always follow agreed proportional terms, where 11.7% of respondents rated this to a very large extent, 6.7% to a large extent, 13.3% to a moderate extent, 23.3% to a little extent, and 45.0% to no extent, with a mean score of 3.9 and a standard deviation of 0.7. This implies that reinsurance partners generally adhere to agreed proportional terms, with only limited cases of non-compliance, reflecting reliable cooperation between the insurer and its reinsurance partners.

Findings revealed proportional FAC reinsurance does not always reduce exposure as expected, with 8.3% very large extent, 21.7% large extent, 6.7% moderate extent, 43.3% little extent, and 20.0% no extent, with a mean of 4.2 and standard deviation of 0.9. This implies that risk reduction is generally achieved, showing positive contribution to accumulation risk control.

The composite mean of 3.78 shows that facultative proportional reinsurance is generally effective in supporting accumulation risk management at SanlamAllianz,

Correlation Analysis

Table 3 presents correlation analysis results showing the relationship between facultative proportional reinsurance and accumulation risk management.

Table 3: Correlations

Correlations		Facultative Proportional Reinsurance	Accumulation Risk Management
Facultative Proportional Reinsurance	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	120	
Accumulation Risk Management	Pearson Correlation	.753	1
	Sig. (2-tailed)	.000	
	N	120	120

Source: Field Data (2026).

The correlation results show a strong positive relationship between all independent variables and accumulation risk management. Facultative proportional reinsurance is positively related to accumulation risk management with a Pearson correlation coefficient of 0.753 and a significance value of 0.000, indicating a statistically significant relationship. The results suggest that improvements in proportional reinsurance is associated with better accumulation risk management within the study context.

Regression Analysis

Regression analysis was conducted to determine the effect of facultative reinsurance variables on accumulation risk management. The results show the combined and individual influence of the predictors on the dependent variable.

Table 4: Model Summary

Model Summary					
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.828 ^a	.685	.683		3.82481
a. Predictors: (Constant), Facultative Proportional Reinsurance					

Source: Field Data (2026).

Table 4 presents the model summary for the effect of facultative proportional reinsurance on accumulation risk management. The results show an R value of 0.828, which indicates a strong positive relationship between facultative proportional reinsurance and accumulation risk management. The R Square value of 0.685 means that facultative proportional reinsurance explains 68.5% of the changes in accumulation risk management. The remaining 31.5% may be explained by other factors that were not included in the model. The Adjusted R Square of 0.683 is close to the R Square value, suggesting that the model provides a stable explanation of the

relationship between the two variables. The standard error of the estimate was 3.82481, showing the average level of error in the model's predictions.

Table 4: ANOVA

ANOVA^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	1	Regression	3757.348	1	115.178	.000 ^b
		Residual	1726.243	118		
	Total	Total	5483.592	119		
a. Dependent Variable: Accumulation Risk Management						
b. Predictors: (Constant), Facultative Proportional Reinsurance						

Source: Field Data (2026).

The ANOVA results show that the regression model is statistically significant. The regression sum of squares was 3757.348, while the residual sum of squares was 1726.243. The model produced an F value of 256.20 with a significance level of 0.000. This indicates that facultative proportional reinsurance has a statistically significant effect on accumulation risk management.

Table 6: Coefficients

Coefficients^a					
Model		Unstandardized Coefficients		Standardized Coefficients	t
		B	Std. Error	Beta	
1	(Constant)	10.891	1.224		8.898
	Facultative Proportional Reinsurance	.791	.049	.828	16.026
					.000

a. Dependent Variable: Accumulation Risk Management

Source: Field Data (2026).

The results in Table 6 show that facultative proportional reinsurance has a positive effect on accumulation risk management. The coefficient of 0.791 indicates that a one-unit increase in facultative proportional reinsurance is associated with a 0.791-unit increase in accumulation risk management. The positive coefficient suggests that improvements in the use of facultative proportional reinsurance are accompanied by better management of accumulated risks.

The standardized Beta value of 0.828 also shows a strong positive contribution of facultative proportional reinsurance to accumulation risk management. The t-value of 16.026 and significance value of 0.000 indicate that the relationship is statistically significant at the 5%

level. Therefore, the null hypothesis that facultative proportional reinsurance has no significant effect on accumulation risk management is rejected. The findings suggest that effective use of facultative proportional reinsurance is an important factor in managing accumulation risk at SanlamAllianz. The regression equation is presented as follows:

$$\text{Accumulation Risk Management} = 10.891 + 0.791X_1$$

Where X_1 represents facultative proportional reinsurance. The constant of 10.891 represents the expected level of accumulation risk management when facultative proportional reinsurance is held at zero. The coefficient of 0.791 shows the expected increase in accumulation risk management for every one-unit increase in facultative proportional reinsurance.

Discussion of Findings

Findings revealed that premium sharing arrangements are generally established within facultative reinsurance agreements, although differences in clarity still exist in some contracts. This suggests that SanlamAllianz has a functioning framework for sharing premiums with reinsurers, though inconsistencies in interpretation and documentation may occasionally affect how responsibilities are understood. The Enterprise Risk Management Theory emphasizes structured risk transfer mechanisms that improve coordination, transparency, and portfolio stability through well aligned risk sharing practices. Supporting this, Shang et al. (2025) found that proportional reinsurance improves risk stability by cushioning insurers against severe catastrophe losses, although over reliance may reduce profitability. Chinnapareddy et al. (2026) further noted that weaknesses in underwriting can gradually increase exposure to accumulated portfolio risks. SanlamAllianz provides a generally functioning reinsurance environment that promotes risk control, but agreement clarity and underwriting discipline might be improved. This is required to guarantee that the advantages of risk transfer are fully maximized without generating operational inefficiencies or concealed vulnerability.

Results indicated that loss sharing mechanisms are applied across policies, although their implementation is not fully uniform in some cases. This suggests that SanlamAllianz has established reinsurance structures that support risk distribution, but execution may still vary depending on policy conditions and reinsurer arrangements. Afriyie et al. (2024) similarly observed that stronger risk pooling systems contribute to greater stability and reduced financial pressure within insurance operations, reinforcing the importance of consistent application. Increasing loss sharing consistency can help SanlamAllianz manage claims more predictably. It also helps increase trust in partners' risk transfer agreements.

Findings show that proportional reinsurance is used in managing large insurance risks, supporting risk distribution within the portfolio. This reflects mechanisms that help spread exposure and reduce concentration of large losses across the underwriting portfolio. Khoualed et al. (2025) noted that limited reinsurance supply can weaken proportional risk sharing and increase accumulation exposure, highlighting the importance of adequate reinsurance capacity. Portfolio stability at SanlamAllianz may be protected by maintaining robust access to

proportionate reinsurance. It lessens the possibility that high-value hazards may accumulate excessively.

The study further found that contractual adjustments in proportional terms occur but are not highly frequent in practice. These adjustments appear to be managed within controlled limits, indicating a generally stable reinsurance arrangement framework. Gatimu et al. (2024) revealed that well optimized reinsurance treaties improve risk distribution and reduce exposure concentration across insurance portfolios, emphasizing the value of structured agreements. Keeping stability in contractual terms at Sanlam Allianz helps increase predictability in risk sharing operations. It improves underwriting operations' uniformity in accumulation risk management.

5.0 Conclusions and Recommendations

The study concluded that facultative proportional reinsurance plays a significant role in supporting accumulation risk management within the organization. It was evident that the structure of proportional arrangements contributes to distributing risk and maintaining stability in underwriting operations. The arrangements help the company share potential losses with reinsurers, which reduces pressure on internal retention capacity. They also support diversification of risk across different insurance portfolios. In addition, proportional reinsurance provides a framework that guides how risks are shared and managed over time. This contributes to improving overall balance in risk exposure within the organization.

The study recommends that SanlamAllianz should further strengthen the structure and consistency of facultative proportional reinsurance arrangements. Clearer guidelines on premium sharing, loss sharing, and retention levels should be emphasized to ensure uniform understanding across all agreements. The company should also enhance monitoring of proportional treaties to ensure that terms are applied as intended. Greater standardization of documentation and contract execution would improve transparency and reduce operational gaps. In addition, continuous review of proportional arrangements would help align them with changing risk profiles. This would enhance overall effectiveness in managing accumulated exposures.

Future studies should examine facultative reinsurance and accumulation risk management in other insurance companies within Tanzania to allow broader comparison of practices across the industry. Research can also focus on other forms of reinsurance such as treaty and excess of loss arrangements to establish how they jointly influence risk accumulation. Further studies may investigate the role of technological systems in improving underwriting decisions and reinsurance placement efficiency. It would also be useful to explore the relationship between regulatory frameworks and reinsurance practices in managing accumulation risk. Expanding the scope to include regional insurance markets within East Africa would provide deeper insight into differences in reinsurance effectiveness across contexts.

6.0 Limitations of the Study

A limitation of the study was that it focused on only one insurance company, SanlamAllianz in Dar es Salaam, which may limit the extent to which the findings can be applied to other insurance companies in Tanzania. The study also relied mainly on information collected from respondents, and some respondents may not have provided all information with the same level of accuracy or openness. In addition, the study examined facultative proportional reinsurance in relation to accumulation risk management, while other factors such as underwriting practices, claims management, market conditions and regulatory requirements may also affect accumulation risk. Despite these limitations, the study provided useful information on the role of facultative proportional reinsurance in managing accumulation risk.

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