

# Mediation Effect Of Cannibalization On The Relationship Between Diversification And Performance Of Insurance Companies In Kenya.

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## Abstract

This study sought to find out the mediation effect of cannibalization on the relationship between diversification and performance of insurance companies in Kenya. All the registered and licensed insurance companies were considered in this study. A regression model was used to test the relationship among the interacting variables. Cannibalization was found to have a negative significant effects on the relationship between diversification strategies and performance of insurance companies. Adoption of either bancassurance, online marketing or both negatively affected performance of insurance agents. When banks sell insurance products to the same customer targeted by agent, the resultant effect is demotivation leading to low productivity hence low performance. This study recommends that insurance companies should come up with new ways to ensure insurance agents are motivated and don't perceive diversification as a threat but as a complimentary mechanism to increase their sales.

## 1.0 Introduction

Insurance companies have found themselves working in a rapidly changing environment characterized by fierce competition, globalization, and rising expectations and demands of various stakeholders. With the changing demographics of insurance buyers Hui Fang (2020), observed that insurance companies are now diversifying away from their traditional sales channel of individual sales agents to now using multiple types of distribution channels chosen based on the needs and status of the target customer segment. The insurance companies are adopting several or all of the distribution channels ranging from use of: Corporate agents, Micro-insurance, Bancassurance, Cellphone, Kiosks, Internet, E-commerce, Worksite marketing, Direct marketing – Internet, Digital TV/ Satellite selling, Supermarkets, Affinity channels and groups, Insurance specific debit/ credit cards and Call centers (Acharya ,2017; AKI, 2020; Sharma ,2016).

Across the African continent, distribution channels vary by region as well as between life and non-life products Brokers and agents remain the most prominent channels, although direct sales and bancassurance have increased their share (Wei Jiang & Xue Ke, 2020) For example, industry reports in the Ghanaian life-insurance market

indicate that the bancassurance share of premiums almost doubled from 7 percent in 2015 to 13 percent in 2019. It is also likely that online and mobile banking usage in several African countries will show a net increase with majority of african countries already embracing online insurance marketing. Association of kenya insurers report (AKI) of 2020 showed that Lami, a digital insurance platform founded in 2018 is reported to have sold more than 5,000 policies since inception and has partnered with more than 25 active underwriters, including Britam, Pioneer, and Madison Insurance to distribute more than 30 products available including medical, motor, employee benefits, and device insurance. Bancassurance has also occupied a significant market share in the Kenyan market with reports indicating that in the year 2020, there were 26 bancassurance channel of insurance distribution in the Kenyan market (Aki 2017).

Usually, all the distribution channels contribute to the total sales and revenues of the insurance companies. Varshney (2016) established that companies seeking to increase their market share take a gamble that introducing a new distribution channel will harm other competitors more than the company itself or that the new channel will sell better than the first, or will sell to a different sort of buyer. The underlying rationale as postulated by Yumurtac *et al.*, (2016) is that it is better for a

consumer to choose between several of your sales channel than to choose between one of yours and those of other firms. This may not necessarily be the case and findings of Wei Jiang & Xue Ke (2020) established that adding a new distribution channel can threaten sales in existing channels, and lead to differences in prices and margins within channels. Diaz, Martín-Consuegra, & Esteban (2018) defined this competition between channels within the same company as Cannibalization. Revelations of Pauwels and Neslin (2015) show that while cannibalism is rarely desirable, it may be regarded as positive if it increases the market value of the firm by stabilizing earnings, or if the cannibalizing channel attracts new customers who otherwise might prefer a competing channel. In contrast, Sharma (2016) found that sales agents who act as retailers in the insurance industry, perceive cannibalization as a negative driver for their effort, job satisfaction and performance. Further, Kong (2015) observed Salespersons fear the internet as they perceive that internet cannibalizes their sales and makes them outmoded eventually replacing them.

This study contributes to literature on strategic management in many ways. First, the study provides empirical evidence on the relationship between diversification strategies and performance using data from the Kenyan insurance sector. Further, findings of this study informs on the current status of insurance industry. Second, the study forms part of a body of knowledge to the scholars in the academia and service industry and provides insight on the concepts of diversification strategies and how they influence performance. Further, the study was undertaken in Kenya, a developing country thus findings of this study could be related to other developing countries. Third, this study forms an invaluable source of reference especially when developing policy guidelines for the insurance sector. The owners and management of insurance companies benefits from this study through gaining more insights concerning the benefits of diversification strategies and their relationships to performance.

The rest of this paper is structured as follows: background of the study is presented in section 2, theoretical review in section 3, and empirical review and hypothesis development in section 4. Research design is presented in section 5, empirical results and discussion are presented in section 6, and summary and conclusion are presented in section 6.

## 2.0 BACKGROUND OF THE STUDY

The main players in the Kenyan insurance industry are insurance companies, reinsurance companies, intermediaries such as insurance brokers and insurance agents, risk managers or loss adjusters and other service providers. There are a total of 55 licensed insurance companies as at the year 2020 (Insurance Regulatory Authority, 2020). Owing to deregulation, new technology and changing consumer behavior, the competition in the insurance sector is getting fiercer leading to increased diversification of distribution channels (Kazungu & Barasa 2017). Traditionally Kenyan market was largely dominated by insurance agents but the trends is fast shifting with the insurance regulator (IRA, 2020) observing that 26 banks are already licensed to distribute insurance products on behalf of insurance companies. Further the enacted Bancassurance law of 2020 is seen as an incentive to banks, microfinance and Sacco to legally engage in distribution of insurance services in Kenya (AKI, 2021). Insurance technology (Insurtech) as noted in OECD (2017) is another fast emerging distribution channel in the insurance industry. Customers are able to pay for processes faster, process Insurance claims via online platforms, with less time for processing while also comparing various insurance products. Also the Kenyan legislature through the Business Laws (Amendment) Bill of 2020 promotes use of technology in distributing insurance through introduction of the electronic signature as an identifier for a signatory in the law of contract.

The continued diversification in sales channels was found by Wei Jiang & Xue Ke (2020) to lead to cannibalization hence harming the organization. This is so where the original market of the insurance agents is being eaten away by banc assurance and online marketing. Insurance regulatory in their report of the year 2017 observed that banc assurance was making life harder for Kenya's estimated 10471 insurance agent. Swiss Re Sigma No. 4/2020 report indicated that in 2019, Africa's insurance premium amounted to USD 68.16 billion accounting for 1.08% of the world's insurance premium. This was a decline of 1.8% in premium compared to 2018. Despite many insurance companies embracing online marketing, in the year of 2019, Kenyan insurance regulatory authority (IRA) reported that insurance penetration in Kenya reduced from 2.43% in 2018 to 2.34% in 2019. Although cannibalization is a familiar concept there is surprisingly little research in the area of insurance. One exception is on the distribution channels where cannibalization is

clearly important for assessing the sales and profitability potential. This therefore informs the need to find out the effect of distribution channels cannibalization and performance of insurance companies in Kenya.

### 3.0 THEORETICAL FRAMEWORK

#### 3.1 Vrooms Expectancy Theory

In organizational behavior study, expectancy theory is a motivation theory first proposed by Victor Vroom of the Yale School of Management in 1964. According to expectancy theory, individuals are motivated if they believe expending effort on a task leads to improved performance regarding some dimension. If individuals believe their efforts do not produce expected results, motivation suffers (Vroom 1964; Seniwoliba 2015). The expectancy theory says that individuals have different sets of goals and can be motivated if they have certain expectations. This theory is about choice and Deci, & Ryan (2013) denotes that the theory is based upon the belief that; favorable performance will result in a desirable reward, the reward will satisfy an important need and that the desire to satisfy the need is strong enough to make the effort worthwhile. Seniwoliba (2015) found that the theory is founded on the basic notions that people will be motivated to exert a high level of effort when they believe there are relationships between the effort they put forth, the performance they achieve, and the outcomes/ rewards they receive. In contrast, if individuals believe their efforts will not produce expected results, motivation will suffer (Vroom, 1964) along with these relationships. Thus Díaz, Martín-Consuegra & Esteban, (2018) established that perceptions of high level of uncertainty in the outcome of the sales agents' effort result in a lack of interest in maintaining a long-term relationship. Kollmann, Kuckertz, & Kayser, (2012) argues that a high level of perceived cannibalization is likely to decrease a sales agent's belief that introducing multiple distribution channels will result in corresponding reward, thus, resulting in alienation from work leading to low productivity. Sharma, Gassenheimer, & Alford (2010) further posit that perceived cannibalization blurs expectations of succeeding by placing psychological constraints on the ability of sales agents to do their job. Without accurate estimates, sales agents feel a loss of control of sales outcomes, and, therefore, their ability to meet job expectations.

#### 3.2 Uncertainty Reduction Theory

Uncertainty reduction theory explicates how the addition of alternatives in a given situation results in increased uncertainty and how these additions may be perceived as cannibalistic. The theory was developed by Charles Berger and Richard Calabrese in 1975 (Milliken 1987). This concept was defined by Korstanje (2015) as an individual's inability to predict something accurately. In the current environment characterized by intense competition and technological changes, introduction of multiple distribution channels has caused a number of sales agents to feel uncertain regarding job continuity and loss of income (Van *et al*, 2010). In other words, Porter & Michael (2001) contends that individuals will not work optimally when their job is in jeopardy. The introduction of an alternative channel breed insecurity for sales agents who perceive the channel cannibalizes their earning potential. Additionally, past research indicates that job insecurity influences work attitudes and Sharma and Gassenheimer (2009) conceptualized that Sales agents' perceptions of changes to their roles and declining sales were perceptions of service cannibalization. The multichannel approach of companies to reach customers through both sales agents and the Internet creates sales uncertainty among the sales agents. Consequently, the greater the level of uncertainty that exists in a situation and the more constraints sales agents face, the less likely that sales agents will be able to predict behaviors and occurrences, perpetuating perceptions of insecurity

### 4.0 EMPIRICAL REVIEW AND HYPOTHESIS DEVELOPMENT

#### 4.1 CANNIBALIZATION

Cannibalization is the term used when one product or services competes with another within the same company. Extant research suggests that the psychological effects of perceived cannibalization are motivationally, emotionally, relationally, and financially detrimental to agents (Sharma & Gassenheimer, 2009). Nirbhay, (2016) found that companies are under the pressure of continuous radical innovation and cannibalize their products and services to overcome the volatile situation. In some instances, cannibalization is of course necessary and was found to be a deliberate corporate strategy. Atasu *et al.*, (2010) found that new channels could enable additional market segments to be reached while Hayes *et al.* (2014) established that having a future market focus and

abandoning an old product as soon as a new one comes along could benefit overall profits. Further Tara (2018) notes that currently firms are encouraging the act of cannibalization and forced obsolescence. Some companies as stipulated by Nirbhay, (2016) purposefully cannibalize their retail sales through lower prices in their online offers which may be at the cost of the store sales of the company but the company looks for overall profits. In contrast to the benefit of cannibalization, Sharma (2016) found that adding a new distribution channel threaten sales in existing channels, and lead to differences in prices and margins within channels. Pietro and Vinay (2018) found that sales shifted from the entrenched channels to the new channel when the latter provided more appealing features to the target audience, such as a quasi-unlimited amount of information on product attributes, increased customization, and time savings. When this happens, Kong (2015) in his discussion alluded that the firm's entrenched channels lost motivation, and reduced their support for the firm's products which in turn resulted in more brand switching towards the firm's competitors, and hence decrease total sales.

## 4.2 DISTRIBUTION CHANNELS

Amongst the many channels which operate today, concurrently so, the agents, bancassurance and much recently, the direct channel (prominently online) have grabbed a major chunk of insurance business. Broker, a channel to reckon with a few years back has lost some shine and is not in the reckoning of late(cite). Hence, the study reviews literature on the top three (agents, banc assurance and online).

### 4.2.1 INSURANCE AGENT

In the Kenyan insurance sector, the distribution via agents has been the dominant distribution channel in the (IRA ,2019). Exclusive (or tied) agents are only allowed to sell the insurance products of determined insurance firms or groups, while independent insurance agents are free to choose the products they sell and the companies they work with. Sales agents' perceptions of alternative sales channels lead to fear concerning service cannibalization and job insecurity subdues their effort, reduce satisfaction, and renders them anxious of an uncertain future. Howard (2000) suggests that the percentage of insurance transactions involving agents could drop even lower, to 50 percent, due to offers of insurance by direct writers, banks, affinity groups, and product

bundles (e.g., selling a car with free insurance). Elsewhere, Gulati, R., Bristow, D., & Dou, W. (2002) contends that, regardless of the extent of actual cannibalization, sales agents' fears concerning cannibalization and the security of their jobs can subdue their efforts, breakdown long-standing relationships, reduce their commitment, and make them fearful of an uncertain future. Others, as noted by Yanzi & Zhi-Hai (2019) however, feel that the Internet will not replace sales agents, but rather will supplement their efforts. Some sales agents are using the Internet to improve communication with, and provide better service to their firms and customers and/or to transact business with their carriers online.

### 4.2.2 ONLINE SELLING (INSURTECH)

The Internet has proven an effective channel for selling and distributing products (Pauwels and Neslin, 2015). The Internet provides customers with massive amounts of information concerning service attributes, increased customization, and time savings, reducing the need for human interaction. A major advantage to the insurer of selling through the new electronic channels is the scope for greater automation. By adding internet channels, companies hope to increase overall performance, consolidate existing markets and expand into new markets (Geyskens et al., 2002). Unfortunately, internet channels are not without potential problems: and Cao and Li (2015) found that existing channels may view new internet channels as unwelcome competition consequently losing motivation and reducing support for the firm's products. This may, in turn, also result in brand switching towards the firm's competitors and, hence, decreased total sales. In support, Yumurtac *et al.* (2013) observed that internet provided customers easy access to the core business processes such as quotations, policy issuance, claims thereby rendering the agent to secondary role.

Indeed, Sharma, & Gassenheimer, (2009) posits that online prices for similar products are usually lower than those of traditional outlets "leading to a cat-and-mouse game" in which agents have to guess as to whether their customers knew the internet price. Further Di Mauro and Musumeci, (2011) found that insurance agents feared that the Internet will not only cannibalize their sales and roles, and create conflicts within the industry, but that it renders them outmoded and eventually replaces them. Kollmann, Kuckertz, & Kayser, (2012) observed that sales shifted from entrenched channels to new internet channels when the latter

provided features that were more appealing to the target audience, such as a substantial amount of information on the products' characteristics, their possible customization and consistent time savings. The Internet was also found to likely increase competition since the consumers have better and quicker access to efficient shopping comparison websites (Avery *et al*, 2012)

According to expectancy theory, individuals will be motivated if they believe that "expending a given amount of effort on a task will lead to an improved level of performance on some dimensions". In contrast, if individuals believe their efforts will not produce expected results, motivation will suffer along with these relationships. Thus, perceptions of high level of uncertainty in the outcome of the sales agents' effort result in a lack of interest in maintaining a long-term relationship. Thus, the following is hypothesized:

HO<sub>2</sub>: Online selling cannibalizes on insurance agents negatively affecting insurance performance

#### 4.2.3 BANCASSURANCE

Banc-assurance is an arrangement in which a bank and an insurance companies form a partnership so that the insurance company can sell its products to the bank's client base. Bank staff and tellers, rather than an insurance salesperson, become the point of sale and point of contact for the customer (Clipici and Bolovan 2012). This partnership arrangement can be profitable for both parties. Alavudeen and Rosa (2015). Banks can earn additional revenue by selling the insurance products, while insurance companies are able to expand their customer bases without having to expand their sales forces or pay commissions to insurance agents or brokers. Kumar, (2006) found that it is much easier for a bank to sell insurance products to its customers as it has complete knowledge about the financial status of its customers through their spending and savings patterns. Additionally, Omondi (2013) established that banks have an easier approach to customers in terms of persuasion to get an insurance product, since customers trust their banks more than an insurance company

There are certainly some risks related to the implementation of the banc assurance and Juma (2015) found that management issues like who is in charge of client relationship management, trade-off in product design as well as the split-up of product marketing expenditures and build-up of commissions affected overall performance.

Additionally, Grover and Bhalla (2013) found that rivalry among the merged entities lead to 'ring-fencing' of products or client base fragmentation while Thirupathi (2014) found that bancassurance took away clients base of insurance agents. Further, Banne and Bhola (2014) posit that insurance agents contemplated losing placement and commissions to banks which lowers their commitment. Santosh (2015), established that entry of banks into insurance industry intensified a standoff between banks and sales agents who lost direct control over their sales making it difficult for them to manage their marketing strategies.

Making reference to uncertainty reduction theory, sales agents perceive both a reduction in their sales and uncertainty regarding continuation of their jobs when facing multiple channels available to consumers. Sales agents' perceptions of uncertainty leads to several consequences including fear concerning service cannibalization, job uncertainty and increase of role ambiguity hence reduce commitment to the organization, resulting in low productivity. The study therefore hypothesizes that:

HO<sub>3</sub>: Bancassurance cannibalizes on insurance sales agents negatively affecting insurance performance

#### 4.3 Diversification

Diversification is classified into two classes, related diversification and unrelated diversification. These classes are further divided into four types which are: Concentric, Horizontal Conglomerate, and geographical diversification (Wan, 2011). When a firm diversifies into an industry which has a technological similarity with the industry it is currently involved in, it is said to have employed concentric diversification strategy whereas Horizontal diversification occurs when a firm develops or acquires new products that are different from its core business or technology, but which may appeal to its current customers. It could also occur when a firm enters a new business. Geographic diversification is described as the practice of entering different geographical regions either locally, regional, nationally or internationally in order to reduce the overall risk and enhance growth of the firm (Hsihui Chang *et al*, 2013). Ticha and Hron (2007) in their strategic management study described Conglomerate diversification as a strategy where a firm enters an entirely different market that has little or no synergy with its core business or technology.

Conglomerate diversification can be achieved through acquisition or merger

**Methodology**

**3.1. Research Design and Sample Size**

The study employed causal comparative research design. Causal comparative design was appropriate for this study hence employed as ex-post-facto since the alleged cause and effect had already occurred (Frank & Rens, 2017; Richardson, 2018). The study employed data from audited annual financial statements from all 55 insurance companies in Kenya that had the data for 5 years starting from the year 2017 to 2021.

**3.2. Operationalization and Measurement of Variables**

We measure cannibalization using the gain-loss analysis by measuring competitive shifts in consumer buying in terms of the amount of business each distribution channel gains or losses to other distribution channels. Cannibalization rate was obtained by dividing the sales loss of the existing product by the sales achieved for the new product. The higher the ratio compared to competitors' brands, the more plausible a cannibalistic explanation of the cannibal's gains in the market.

$$\text{Cannibalization Rate} = \text{Sales loss of existing product} / \text{Sales of the new product}$$

Diversification was measured using Rumelt's specialization ratio (SR) as recommended by Hayes *et al.* (2014). Through deriving a ratio from a firm's annual revenues from its largest discrete, product market activity to its total revenues, Rumelt's specialization ratio (SR) was able to categorize insurance companies into undiversified, (SR ≥ 0.95) and diversified firms (SR < 0.95) which enabled comparison to performance.

Return on assets and return on equity were used as financial performance measures. The operationalization and measurement of the variables is presented in Table 1.

**3.3. Research Model**

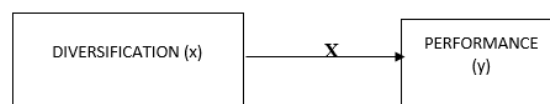
To test whether diversification strategies have significant effects on financial performance, the following regression model was used in the form of:

$$ROA_{it} = \beta_0 + \beta_1 CGD_{it} + \beta_2 CCD_{it} + \beta_3 GD_{it} + \beta_4 PD_{it} + \beta_5 AGE_{it} + \beta_6 SIZE_{it} + e_i$$

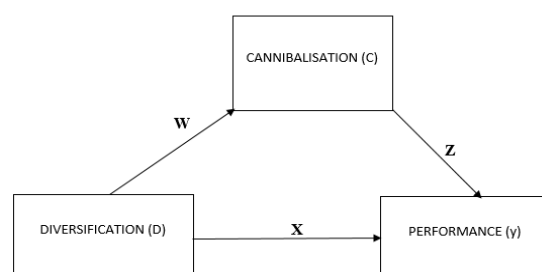
Where: ROE is performance,  $\beta_0$  is performance of insurance firm independent of diversification strategy,  $\beta_1 - \beta_4$  coefficient of the variables, CGD conglomerate diversification, CCD concentric diversification, GD geographical diversification, PD Product diversification, AGE is the age of the firm, SIZE is the size of the firm,  $i$  is 1.....,55 insurance companies,  $t$  is 1,.....5 years and  $e$  the error term.

**3.4. Determination of Mediation Effect**

To establish whether cannibalization had a mediating effect, the study compared the total effect of the causal variable to the dependent variable and the complete or partial mediation effect when a cannibalistic factor was introduced as a mediating variable. In diagrammatic form, the study adopted the two diagrams to help determine the mediating effect.



**Fig 1: Unmediated model**



**Fig 2. Mediated model**

In Figures 1 and 2, diversification is the independent variable, performance is the dependent variable, X is the total effect of diversification on performance.

, C' is the direct effect of cannibalization on performance, Z is the effect of the mediating variable on performance, W is the effect of diversification on the mediator. This analysis was done to establish whether there existed a complete mediation (where variable D no longer affected Y after C has been controlled making the direct effect to zero) or partial mediation (where direct effect is different from zero) when cannibalization was introduced as a mediator. Baron and Kenny (1986) argued that a variable is a mediator when variations in the independent variable significantly account

for the variations in the presumed mediator and in addition variations in the mediator significantly account for variations in the dependent variable. Baron and Kenny (1986), Judd and Kenny (1981) and James and Brett (1984) suggested four steps for testing mediation effects. The first step shows existence of effect to be mediated as demonstrated in Figure 1 where path (X) is estimated using Y as the criterion variable and D as a predictor variable in a regression equation. Secondly, the causal variables should be correlated with the mediator. In this step the mediator is treated as an outcome variable in order to estimate path ‘W’ as demonstrated in Figure 2 using cannibalization as the criterion variable and D as a predictor variable in the regression equation. Thirdly, the mediator should have an effect on the outcome. In this step, path ‘Z’ is estimated as demonstrated in Figure 2 using Y as the criterion variable and cannibalization as predictors in a regression equation while controlling for the causal variable D since both the mediator and the outcome are caused by the causal variable (James & Brett, 1984). The fourth step is used to establish that the mediator completely mediates the D-Y relationship thus is used to estimate path X’ as demonstrated in Figure 2 while controlling for mediator, that is, the effect of D on Y controlling for the cannibalization. However, Kenny, Kashy and Bolger (1998) observed that in testing mediation, step 1 may not be required and step 4 does not have to be met unless where expectation is for complete mediation. This study therefore adopted Kenny et al. (1998) observations thus employing step 2 and 3 as the most essential and relevant steps in testing the effects of mediation. To test mediation effect, the current study adopted suggestions by Kenny et-al, (1998), hence two models were employed as shown in equations (3) and (4).

$$Cit = ait + \beta 1 CAit + \beta 2 AQit + \beta 3 MEit + \beta 4 EQit + \beta 5 LRit + uit \quad (3)$$

$$yit = ait + \beta 1 CAit + \beta 2 AQit + \beta 3 MEit + \beta 4 EQit + \beta 5 LRit + \beta 6 Mit + uit \quad (4)$$

The model in equation 3 was used to determine the effect of diversification on cannibalization. A product of the coefficients (W) from  $\beta 1$  to  $\beta 5$  was obtained.

The model in equation 4 was used to determine the effect of mediating variable on insurance company performance while controlling for all diversification factors. A product of the

coefficients (Z) from  $\beta 1$  to  $\beta 6$  in equation (4) was obtained.

Mediation effect of cannibalization was obtained by getting the overall product of (W) and (Z). If product ‘WZ’ is greater or less than zero, there exist a positive or negative mediation effect respectively. If the overall product  $WZ = 0$ , there is an absence of mediation effect hence cannibalization (C) is not a mediator.

### 3.4.1. Determination of Mediation Effect

To establish whether cannibalization had a mediating effect, the study compared the total effect of the causal variable to the dependent variable and the complete or partial mediation effect when a cannibalistic factor was introduced as a mediating variable.

## Empirical Results and Discussion

### 3.0 Descriptive Statistics

Descriptive results of the diversification strategies and performance are presented in Table 1. The findings indicate that the return on assets was between -4.71 and 5.96 with a mean of 1.55 The results suggested that some of the insurance firms registered losses while others achieved positive returns. The findings also show that concentric diversification was between 0.50 and 0.98 with a mean of 0.56. The results implied that majority of the insurance firms had adopted concentric diversification. The findings further show that conglomerate diversification was between a minimum of 0.29 and a maximum of 0.98 with a mean of 0.58 implying that majority of the insurance firms adopted conglomerate diversification during the period under review. Geographic diversification ranged between 0.33 and 1.00 with a mean of 0.57. The results implied that majority of the insurance firms adopted geographic diversification during the period under review. The findings also showed that vertical diversification was between 0.17 and 0.99 with a mean of 0.71. The results implied that most of the insurance firms adopted product diversification during the period under review

**Table 2:** Descriptive Statistics

Variable	Indicator	Mean	Maximum	Minimum	Std. Dev.	Observations
Dependent	Return on Assets	1.55	5.96	-4.71	2.48	275
Independent	Concentric Diversification	0.88	2.08	0.21	0.24	276
Independent	Conglomerate Diversification	0.66	5.01	0.01	0.50	276
Independent	Geographical Diversification	0.72	2.05	0.22	0.36	276
Independent	Vertical Diversification	0.60	5.01	0.00	0.49	276
Mediating	Cannibalization	0.45	121.97	-391.75	25.94	269

### 4.1 Correlation and Diagnostic Test Results

The correlation results in Table 3 indicate that the correlation between return on assets and concentric diversification is positive and significant ( $r = 0.335$ ,  $p\text{-value} < 0.01$ ). The findings imply that when an insurance firm diversifies its activities, the return on assets increases. The results also indicate that the correlation between return on assets and conglomerate diversification is positive and significant ( $r = 0.0555$ ,  $p\text{-value} < 0.01$ ). The findings imply that an increase in conglomerate diversification results to an increase in return on assets. The correlation between return on assets and geographic diversification is also positive and significant ( $r = 0.497$ ,  $p\text{-value} < 0.01$ ). The results infer that an increase in geographic diversification increases return on assets. Similarly, the correlation between product diversification and return on assets is positive and significant ( $r = 0.607$ ,  $p\text{-value} < 0.01$ ). The results imply that increasing the vertical diversification increases ROA.

The correlation results also indicate that the correlation between return on assets and firm size is positive and significant ( $r = 0.407$ ,  $p\text{-value} < 0.01$ ). The results imply that increasing the size of the firm results in to increase in ROA. The correlation between firm age and return on assets is negative and not significant ( $r = -0.097$ ,  $p\text{-value} > 0.01$ ). The findings imply that as a firm gets older, the return on assets decreases. The correlation results also indicate that the correlation between the variables is below 0.80 implying that there was no multi-collinearity problem. The results presented in Table 4 further indicate that the VIF values for all the variables were below 10, affirming that there was no multi-collinearity

**Table 3.** Pearson Correlation Matrix

VARIABLE	INDICATOR	ROA	CD	CGD	GD	VD	AGE	SIZE
Dependent	Return on Assets (ROA)	1.0000						
Independent	Concentric Diversification (CD)	0.335**	1.0000					
Independent	Geographical Diversification (GD)	0.497**	0.467**	1.0000				
Independent	Product Diversification (VD)	0.607**	0.146*	0.303**	1.0000			
Independent	Conglomerate Diversification (CGD)	0.555**	0.253**	0.469**	0.563**	1.0000		

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**Table 4:** Variance Inflation Factors

VARIABLE	INDICATOR	VIF	1/VIF
Independent	Concentric Diversification	1.2964	0.7714
Independent	Geographical Diversification	1.5656	0.6387
Independent	Product Diversification	1.5030	0.6653
Independent	Conglomerate Diversification	1.7281	0.5787
	Mean VIF	1.3620	

To determine whether pooled OLS, random-effects or fixed-effects model was appropriate, Breusch and Pagan Lagrangian multiplier test was carried out. The results indicated that the P value was 0.000 which was less than 0.05 suggesting that pooled OLS was not appropriate. Hausman test was further carried out to determine whether the random or fixed-effects model was appropriate. The results in table 5 show that the p-value was 0.0196 which was less than 0.05 implying that the fixed effects model was appropriate. The results in table 6 also show that there is a difference between the values of fixed effect and random effect models. The fixed-effect model was thus used in estimating the effect of diversification strategies on performance. A histogram normality test was also carried out to determine normality. The histogram was bell-shaped and the p-value for Jarque-Bera statistic was 2.116 with a probability of 0.347 which was insignificant at a 5% level of significance, suggesting that the data was normally distributed. Scatter plots of the residuals were also generated which confirmed that there was no linearity problem.

**Table 5.** Hausman test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	15.081260	6	0.0196

**Table 6.** Cross-section random effects test comparisons

Variable	Indicator	Fixed	Random	Var. (Diff)	Prob.
Independent	Concentric Diversification	4.493914	3.966745	0.146260	0.1681
Independent	Geographical Diversification	2.005967	2.152082	0.051937	0.5214
Independent	Product Diversification	3.016791	3.636265	0.057593	0.0098
Independent	Conglomerate Diversification	1.352850	1.657446	0.049320	0.1702

### 5.0 Mediation Effect of Cannibalization

The results in table 7 indicates that the model for estimation of path ‘a’ was significant (P-value 0.06808<0.05), hence a product of the coefficients was obtained which was 0.325. Regression Results to Estimate Path ‘a’ are presented below.



**Table 7:** Path A: Effect of Diversification on Cannibalization

Variable	Coef.	Std. Error	z	P-value
Concentric	0.513	2.951	1.37	0.171
Conglomerate	0.558*	3.387	0.46*	0.036
Vertical	0.582*	3.506	0.17*	0.048
Geographical	-3.303	5.005	-0.66	0.509
Chi <sup>2</sup>	2.26*			0.0688
R Squared overall	0.0085			

Dependent variable Cannibalization, \* indicates statistical significance at 5%

Path is the product of significant coefficients that  $0.558 \times 0.582 = 0.32$

#### Regression Results to Estimate Path 'b'

**Table 8:** Effect of cannibalization on performance controlling for diversification

Variable	Coef.	Std. Error	z	P-value
Cannibalization	-0.0011	0.0032	-0.33	0.0738*
Concentric	-1.749*	0.4352	-0.402	0.0000*
Conglomerate	0.2616	0.1894	-1.49	0.137
Vertical	-0.8554*	0.2058	-4.16	0.0000*
Geographical	-0.512*	0.3214	-4.70	0.0000*
Chi <sup>2</sup>	83.81*			0.0000
R Squared overall	0.3706			

Dependent variable performance, \* indicates statistical significance at 5%

To estimate path 'b', model results in table 8 was used to estimate mediation effect of cannibalization on the relationship between diversification and performance for each of the four diversification strategies employed. When return on assets was employed as a measure of financial performance, the results indicate that the model was significant ( $P\text{-value } 0.000 < 0.05$ ), hence a product of the coefficients was obtained to estimate path 'b' which was -0.011. Mediation effect was obtained by getting a product of path 'a' and path 'b'; hence product 'ab' was -0.0032 this indicated a negative indirect mediation effect of cannibalization.

#### Summary and Conclusion

This study investigated mediation effect of cannibalization on the relationship between diversification and performance of insurance companies in Kenya. It sought to determine whether the sales channel adopted by insurance companies were cannibalizing on each other and what were the effects. Almost all of the studied insurance companies sold their insurance products through insurance agents, had embraced bancassurance and also adopted online marketing. Cannibalization was therefore determined through checking the gains of one sales channel comparing

them with the losses experienced by other channels. Performance was measured by looking at the return on asset(ROA). Regression analysis was done to determine the relationship between the variables.

The findings revealed that diversification had a significant effect on performance of insurance companies in Kenya. Geographical diversification through opening of new branches was found to have a positive significant effect on return on assets. This was attributed to increased visibility of the insurance company, convenience from the customer's view point and increased confidence to customers brought about by presence of a physical permanent office. Insurance companies should therefore diversify geographically in order to improve performance. The study findings further revealed that conglomerate diversification positively and significantly influenced the performance of insurance companies in Kenya. Insurance companies that operated multiple revenue streams which were different from the core revenue stream of selling insurance were found to have a higher return on assets compared to companies that relied on insurance business only.

The study also found that insurance companies that focused on resource allocation and sharing competencies across different business lines enhanced performance by either cost reduction or by playing competitors out of the market. Vertical diversification was found to positively and significantly affects the performance of insurance companies in Kenya. Introduction of customer centric product in both the life assurance line and general insurance line were found to improve performance. This was attributed to the continuously changing needs of customer coming along with changes in risk manifestation. Insurance companies must therefore be creative and design insurance products that reflect the risk arising out of changes in customer needs.

Cannibalization was found to have a negative significant effects on the relationship between diversification strategies and performance of insurance companies. Adoption of either bancassurance, online marketing or both negatively affected performance of insurance agents. To reduce perceptions of threats, organizations should design incentive programs that diminish negative feelings toward an online channel. Specifically, when insurance companies operate in environments that characteristically offer few sales opportunities, appropriate measures

should be taken to counteract salespersons' perceptions of cannibalization. For example, a firm could design effective incentive systems to reduce the negative feelings towards competing internet channels. One way of doing so is to provide incentives to sales agents who provide service to clients who have purchased insurance online. Another option is to train salespersons on how to make the internet beneficial to their own sales operations. Since changes often necessitate acquisition of new skills, alteration in salespersons' repertoire and adaptability to cope will become key determinants of whether the new channel helps or hinders the goals of sales agents. Therefore, training salespersons to adapt to change may be critical to the overall success of both new and entrenched channels.

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