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Reducing churn from price increases: an experimental intervention

Elan Hoffman
Student # 12328482

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Abstract

Reducing customer churn while simultaneously increasing prices is a challenge in need of a successful intervention. This study takes an in-depth look into successful interventions that assist a business in retaining their customers while increasing prices. By identifying such successful methods, business can continue to have price optimisation strategies that can increase the value of the business through the growth in customer equity. By using an experimental design that takes place in a live setting on over 50,000 customers, interventions are tested to research whether they can have a causal relationship between the intervention and improved customer retention. Three different interventions target improving customer loyalty by offering them an additional benefit, providing justification of the increase through a personal phone call or both. The results of this research found that by simultaneously offering a customer an additional benefit and also creating a personal touch point by communicating directly with the customer telephonically in order to justify the increase had a significantly positive impact on customer retention. As an outcome, an additional level of depth can be added to the academic literature and a deeper insight into customer relationship management exists for businesses to learn from and grow their firm value.

Keywords

Price increase, customer retention, customer equity, experiment, interventions

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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May the closing door of this journey open the windows into the next mystery.

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Chapter 1: Introduction to Research Problem

1.1   Introduction

Customer loyalty has been an on-going conversation for many businesses in many industries. The argument of its importance has been well made on several occasions (Hughes, 2008) and has been a significant challenge in maintaining a successful customer management approach (Camanho, Falcao e Cunha, Migueis, & Van den Poel, 2012). A deeper understanding of existing customers is ever increasing since attracting new ones has been known to be more expensive (Lariviere & Van den Poel, 2004).

 In recent years, there has been a consistent focus on organisations' current customers rather than fighting for new ones (Ansari, *et al.*, 2005). Many mature markets that have a low barrier to entry such as retail or insurance are likely to be highly competitive which gives more reason to focus on customer retention and reducing churn. In order to do so it is important to understand that customer churn can be defined as a customers' affirmation of the discontinuation of a relationship between that individual and the business (Ekinci, Ginn, & Stone, 2010).

Since there is great desire to understand existing customers, many studies have tried to predict which customers are likely to churn such as Lariviere & Van den Poel (2005) in their attempt to use random forest and regression forest techniques to predict customer retention and profitability together. Similarly, Camanho *et al.* (2012) attempted to model partial customer churn based on the value of the first product that was purchased within a sequence of purchases from a company. Some have attempted identifying a consistent method in predicting which customers are likely to churn. Others have endeavoured to identify an ideal metric for measuring customer life time value or creating new

metrics to measure the worth of customers such as Return on Customer (Peppers & Rodgers, 2006).

While many of these studies have identified some characteristics that can be used to predict the likelihood of customer churn, none of them have provided the perfect tool as they each had their limitations (Camanho, *et al.,* 2012) (Lariviere & Van den Poel, 2005). Even if an organisation could perfectly predict which customers are more likely to churn, only half of the dilemma would be resolved. The second issue would be applying the right type of intervention in order to successfully alter the customer's intention to churn.

Generating personalised interventions have not had nearly as much focus within the customer retention literature as predictive modelling of who has a higher propensity of churning (Gorgoglione & Panniello, 2011). The actions in which an organisation takes for improving customer retention is just as critical as identifying who is likely to churn (Gorgoglione & Panniello, 2011).

Approaching the topic of customer retention and the successful intervention tools is difficult enough within a static situation. To add more complexity which occurs in day to day business, managers' decisions are impacted by inflationary factors and competitiveness. Both will differ based on a time period, location, economic factors and industry. This research will attempt to identify successful interventions that a company can take in order to improve customer retention in a highly competitive industry, in a country where consumers are feeling a lot of financial distress and where price has a significant impact on customer behaviour.

1.2   The Insurance Industry

The rate at which customers churn in the motor insurance industry specifically is very volatile (Hughes, 2008) as insurance companies operate in highly

competitive markets (Guillen, Nielsen, & Perez-marin, 2008). Insurance policy lapse rates have a direct influence on day to day operations and impacts the risk levels of insurers (Guillen *et al.,* 2008). The insurance market in South Africa during the course of 2011 was highly saturated with ten insurers writing over 80% of the gross premium (KPMG, 2012). Insurers outside the top ten largest short-term insurers in South Africa gained 1.6% more of the market share and medium entities improved on their market share by 2.6% or R1.7 billion between 2010 and 2011 (KPMG, 2012).   These figures indicate the competitiveness within the market.

Figure 1: 2011 Short-Term Insurance Market Share Based on GWP

KPMG, 2012)
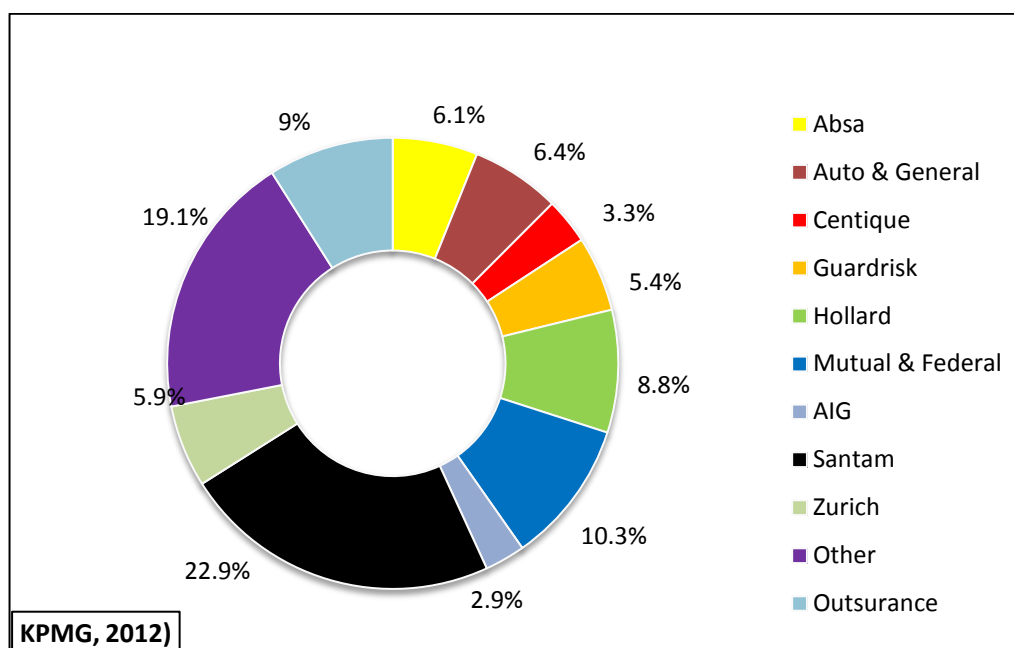
2012 was just as highly competitive as the top ten insurers' gross premium equated to the same as the prior year. There were shifts within the top ten companies' market share of gross written premium such as a decline in Zurich's Market share from 5.9% down to 5.3% or Outsurance slightly increasing their market share (KPMG, 2013). AIG also fell out of the top ten and was replaced by Etana (KPMG, 2013).

Figure 2: 2012 Short-Term Insurance Market Share Based on GWP
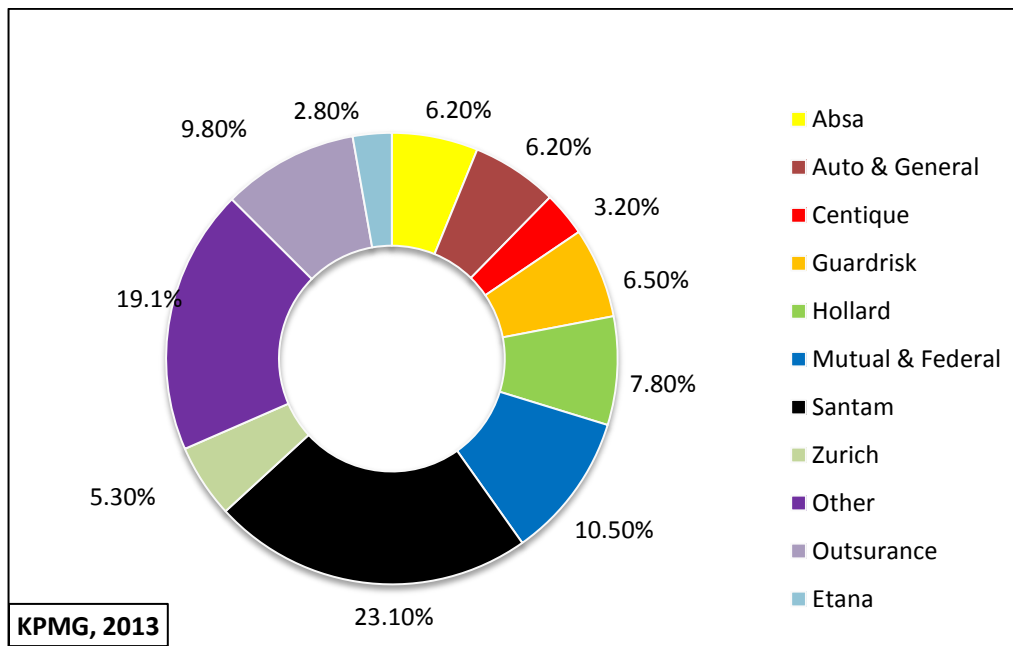
Figure 1 and Figure 2 provide clear examples of how each of the insurers within this market needs to fight to keep their customer base as there are many alternatives options. This provides a clear understanding as to why the South African short-term insurance industry needs a strong understanding of who their customers are and what it will take to retain them.

The competitiveness within the insurance industry is not unique to South Africa. The European insurance companies operate in a market that is also highly aggressive (Guillen *et al.,* 2008). Guillen *et al.* (2008) further explained how customers can easily switch from one insurer to another with ease as information is readily available on several competitors and can be done at a low cost. If a company cannot manage its customer loyalty it will be difficult to sustain growth. If a successful intervention method can be identified in improving retention rates in South Africa, it is likely the same or similar approach could be applied in other international markets.

Lastly, the economic conditions in South Africa are difficult. As presented in Figure 3, the economic condition during the period of this study was on the decline with the credit index declining for several years as indicated by one of the major credit bureaus in South Africa.

Figure 3: SA Consumer Credit Index

(TransUnion, 2013)
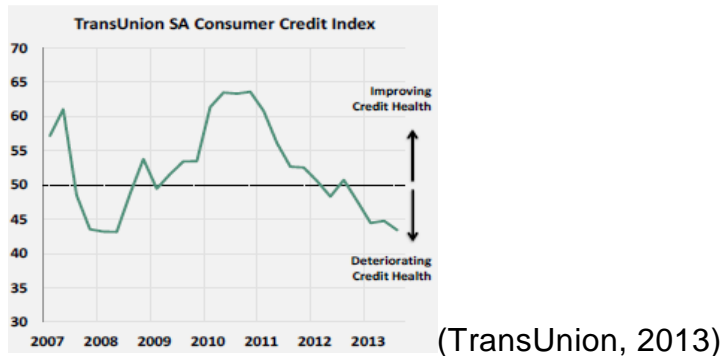
As can be seen in figure 4, the account default rates in South Africa have been increasing.

Figure 4: Accounts in Default

(TransUnion, 2013)
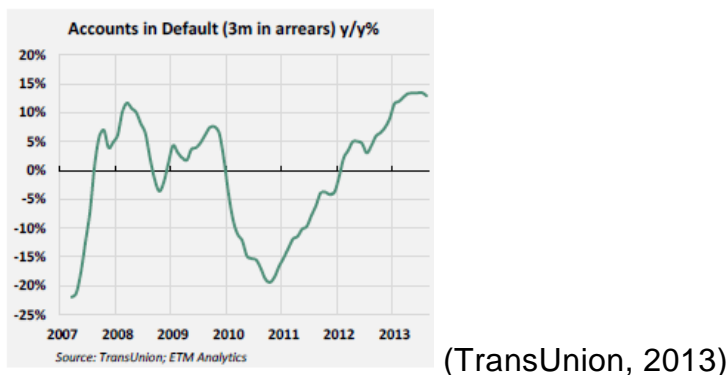
This results in customers having a tougher time affording grudge purchases such as insurance. With increased defaults and a credit market on the decline, the study could provide different results if the economic situation was different. Since the economic conditions are unfavourable, it is even more important for companies to hold onto their customers.

1.3   Research Context

Obtaining consistently high levels of customer loyalty is important in order to maintain long terms profits. In the modern landscape within service industries, specifically in short-term insurance, customer profitability, rather than product profitability, is crucial to long-term performance of an organisation (Furrer, 2002). In dynamic industries that have heavy involvement with customer relationships, products will continuously change, but customers will always remain (Furrer, 2002). This shift in mind-set creates a different focus on strategy as bigger consideration will be given to maintaining customers rather than being product driven. As a result, the need for identifying ways to maintain or improve market share of customers becomes a vital consideration for management. In addition, strategies for increasing the value each customer contributes to a business is another challenge management must face.

As an organisation considers customer equity, the price of their products or services will be of utmost importance. Inflation, risk and growth in profits will continually alter the way in which insurers consider the most optimal methods for pricing their offerings. Price increases are an adequate way to increase the earnings of a company (Evanschitzky, Holzmuller, & Woisetschlager, 2008). In many instances customers are willing to accept price increases, but only if there is a justification for it such as a cost increase (Renner & Tyran, 2004). Conversely they may be less willing without such an understanding. While Evanschitzky *et al.* (2008) examined methods to offset the negative effect of price increases within a controlled environment, it was concluded that further research should be done to include an assessment of the live behaviours of customers' reactions to a price increase. Evanschitzky *et al.* (2008) stated that examination should also be replicated in a different context, which in this case will be the short-term insurance industry.

As companies continually want to grow and be profitable, there is an increasing desire to retain more customers, improve the customer equity of a firm, and also find ways to increase prices. Many academic studies have referred to methods of reducing churn, and discounting pricing strategies such as the study by Grewal and Munger (2001) that looked into promotional discounts and free options. Within all of these studies there still remains a gap of how to obtain a strategy that will serve as a successful intervention method that will reduce customer churn but still allow for a price increase in a live environment.

1.4 Research Problem

Businesses and their shareholders continually want to see growth in their customer base and their profits. Prices will continually increase over time and when they do, they will serve as a trigger for customers to check if there are better deals available. The problem that businesses face is how can they increases their prices while simultaneously improving their customer retention rates in a highly competitive industry. Successful intervention methods need to be identified. The South African short-term insurance industry serves as a paradigm of where a successful strategy will separate one insurer from the next. As a result, the value of each customer will increase resulting in the value of the enterprise increasing. This will allow for both revenue and profit growth even if the level of additional sales does not increase.

1.5 Research Objectives

The purpose of this study is to identify and evaluate the effectiveness of certain interventions companies can apply to reduce customer churn while increasing prices within the South African short-term insurance industry based on previously successful studies. The reason for using the short-term insurance industry is that it falls within a different context as suggest by Evanschitzky *et al.* (2008). The industry in South Africa is a highly competitive and a price sensitive

one. In addition, this study will look at a live environment as it will analyse the behaviour of a sample of customers of one of the top ten insurers in South Africa in a field setting.

1.6　　　Significance of the study

The results of this study will fill the gap in the academic literature by analysing the results of an experiment that one of the top ten insurers in South Africa applied by testing a few different intervention methods on their customers while increasing their premiums. The results will assist in identifying if they had an impact on reducing customer churn while still applying their standard price increases. The findings will add to Evanschitzky *et al.* (2008) view of lessening the negative impact of consumer reactions to price increases.

The findings of the research will provide insight not only for academic literature, but also short-term insurance companies by identifying strategies in mitigating churn while still increasing prices. This will result in maximised long-term profits through improved customer loyalty with an optimised price increase strategy. As an end result, companies can then continue to optimise their pricing strategies and still maintain high retention rates. By identifying ways to both increase prices and reduce churn rates simultaneously, the customer equity of the company will be amplified and result in superior firm value. These results can then be extrapolated into other markets or other service industries and lead to future economic growth.

1.7　Report Structure

In order to gain an understanding on the successful interventions that will improve customer retention while simultaneously increasing prices, this report is broken down into several chapters. The second section provides a review of academic literature that gives a detailed examination of previous studies that

have taken place within the subjects of customer retention, price increase and customer equity. This serves the purpose of providing an understanding of studies that have already been done, lessons that have been taken away within these subject areas, provide insight into areas to build on and to identify that this particular study fills a gap in a space that has little depth.

Once a broad and detailed understanding has been provided, the third chapter identifies the three hypotheses. These hypotheses are thought to be intervention methods that will successfully reduce that amount of customers that will cancel their policies while receiving a hike in the price they pay for insurance. The three methods stem from conclusions and unexplored methods found in previous studies.

The fourth chapter specifies the methodology the researcher takes to facilitate the experiment in order to conclude how successful the proposed intervention methods are at reducing customer churn within this context. Included are several details about who will be involved in the experiment, how the participants were selected, details of how to measure the results of the experiment and the methodology for testing the results' statistical significance.

With an understanding of how the research will be conducted, the fifth section provides detailed results with high level commentary detailing what the statistics are. Chapter six builds on chapter five as it explains the results of the experiment, provides deeper insight into what can be taken away from these results, how it relates to prior studies and how it can be applied in business. Finally the concluding chapter bring the entire study back together as it summarises the study and provides ideas into future research that can build upon this.

Chapter 2: Literature Review

2.1.　　Introduction

Chapter one provided a high level background on the importance and benefits of customer retention strategy. A high level view illustrated how improved customer retention has had an influence on increased firm value, the challenges within the insurance industry regarding retention of customers and the research problem that is faced in identifying successful methods for reducing negative customer responses while applying price increases. An overview was also provided as to why this study will benefit both academia as well as the business world.

An in depth literature review was conducted in order to identify previous findings and research which have provided a detailed understanding of the subject matter. The literature review has presented details explaining how an organisation can significantly increase its' firm value if it can manage to improve customer retention and concurrently increase prices. A gap has been identified in the current literature. This has given way for further investigation as to what successful intervention methods can be taken in order to successfully increase the price of a service offering and simultaneously improve customer retention rates.

Literature on many aspects of customer loyalty and retention has been infinite within academia focusing on several different industries within a wide array of contexts. In order to narrow the view, the primary literature on customer retention has been viewed in relation to insurance and financial services as the industry differs vastly from others such as retail or construction. The review has been segmented into three key focus areas: customer equity, customer retention, and price increases. A final section has further linked how

each of these three major subjects affects each other and ultimately has led to the need for further research.

2.2. Customer Equity

As the service-based industries have played a predominant role in modern economies, there has been a greater focus on revenues that are derived from the creation and maintenance of long-term relationships with customers (Gupta, *et al.*, 2006). Gupta *et al.* (2006) explained how many companies such as Harrah's, IBM, Capital One, and a few others have used Customer Lifetime Value (CLV) as a method to manage and measure how successful their businesses have been. Not all customers are created equally and the organisations should apply different strategies and resources in order to manage their customer relationships (Blattberg, Getz, & Thomas, 2003). By using segmentation in order to isolate which customers provide more value to a firm, specific strategies have been used to improved customer loyalty for high valued customers and less expensive means for less valuable customers (Lemon, Rust, & Zeithaml, 2004). The significance of considering CLV has led to a yearning for understanding the value of customer equity within a business and how to improve it.

2.2.1. Defining Customer Equity

Customer equity has been characterised as the measure of CLV of all current and future customers (Gupta, *et al.,* 2006). Another simple definition of customer equity was characterised as the present value of all future customer profits generated from a customer (Gupta & Lehmann, 2003). Customer equity has also been described as the total of discounted lifetime values summed over all the current and potential customers (Lemon, *et al.,* 2004). Hansotia (2004) termed customer equity as the number of customers multiplied by the average customer lifetime value. As a result of this calculation, by increasing

either the number of customers or the lifetime of customers, the customer equity of a company would increase. This calculation seems fairly simple, but far more complex versions of it exist as each part of the formula has been broken down into sub categories with their own calculations. Hansotia (2004) further decomposed the formula by focusing on new customers and veteran customers. Each of these customer types was then broken down further where new customer equity is equal to the cash flow from initial purchases minus marketing and service costs prior to a second purchase (Hansotia, 2004). This continued to be broken down into additional details. Further to this, different researchers have used different variations in estimating and constructing models to measure customer equity (Gupta, *et al.,* 2006). As each business and industry differs, each company has had to develop its own definitions and assumptions for how to measure a customer's lifetime, how to deal with understanding retention rates, changing levels of profitability over time, and other varying factors (Hansotia, 2004).

2.2.2. Customer Equity as an Asset

When management has looked at the balance sheet of their company, focus has been given to each asset. It has been common for companies to report on the return on investment, with the same being applied to investment in acquiring and maintaining a customer base. Techniques exist in financially measuring certain types of marketing costs, but the methods used have not provided a high level model that can be used to compare marketing strategies (Lemon, *et al.,* 2004). Return on investment models for marketing are rare due to the requirement of a lengthy history of longitudinal data (Lemon, *et al.,* 2004). Within the customer equity literature customers have been viewed as an important intangible asset and have needed to be managed accordingly (Gupta & Lehmann, 2003). Since a company's revenue has been derived from its customers, customer equity can be seen as the greatest asset (Hansotia,

2004). This type of mind-set has driven management to focus on their customers.

By providing focused energy on customers, the end result will be a more satisfied customer base (Hansotia, 2004). As consumers stay longer with a company, they have been more likely to purchase more as their comfort levels increase (Gupta & Lehmann, 2003). This in turn, has given a company more business and led to a long-term relationship (Hansotia, 2004) and more revenue per customer (Gupta & Lehmann, 2003). Furrer (2002) concurred that long term profits come from focus on customer, rather than a product focus during a given time. This is supported by the fact the customer equity is a metric than can be used in identifying profitable customers and allocating the correct resources accordingly (Gupta, *et al.,* 2006). This caused the belief that understanding customer equity as an asset and giving it the same focus as other line items on a balance sheet will provide great firm value.

2.2.3. Benefits of Understanding Customer Equity

As different businesses have begun to comprehend customer equity in more depth, their understanding of how to measure it has also improved due to increased exposure. Measuring customer equity has assisted managers in focusing on long-term targets and has also shifted their mind-sets from products to understanding customers (Gupta & Lehmann, 2003). This will assist them in increasing the tenure of profitable customers. Furrer (2002) identified that the need for this modification has been due to four changes that have transpired in the modern business environment:

1. A shift in the economic make up from goods to services
2. A shift from transaction to relationship
3. A shift from customer attraction to customer retention
4. A shift from product focus to customer focus

Retaining profitable customers has proven to have many benefits for a business. Many articles have referred to one study that has shown that by improving retention rates by 5% the resulting implication on profits can increase between 25-85% (Reichheld & Sasser, 1990). Within another study by Gupta & Lehmann (2003), results showed that when a company increased its retention rates by 5%, it in turn improved the customer equity by 22-37% when assessing companies such as Capital One and E*Trade. As customers' tenures increased, they continued to pay for services which increased current and future cash flows (Hansotia, 2004). As a result, increased customer tenure has led to increased customer current and future cash flow, which ultimately led to increased revenues. By having increased revenues, a company would be more profitable and have higher retained earnings. In turn, this would then result in an increase in the firm value. One could then infer that the value of a company is the value of current and future customers and by increasing customer equity, firm value automatically increases as well (Hansotia, 2004). As Gupta *et al.* (2006) expressed, customer equity gives a good proxy for the value of a firm.

2.2.4. Customer Retention as a piece of Customer Equity

With the deductive logic linking customer equity to firm value, it has been evident that since businesses have wanted to continually increase their value, they incidentally have also wanted to increase their customer equity. In order to increase customer equity, the tenure of customers and the amount of customers an organisation has been able retain is of utmost importance. What a firm has done such as its marketing efforts, has had an influence on their customer acquisition, retention, and cross sell behaviours and they consequently have had an impact on customer equity and firm value (Gupta, *et al.*, 2006) as can be seen in the framework for modelling CLV and customer in Figure 5.

Figure 5: Conceptual Framework for Modelling Customer Lifetime Value
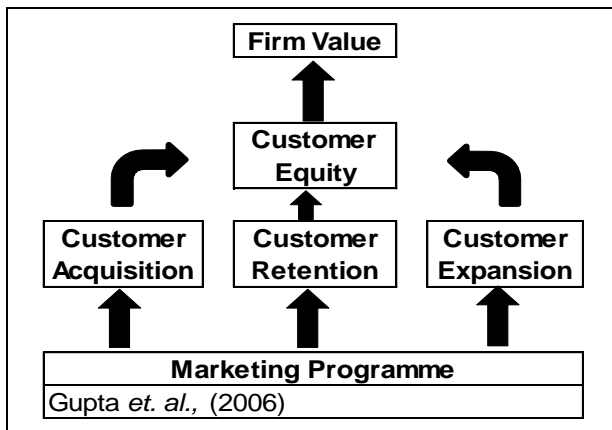
As customer retention has made up a substantial part of calculating customer equity within Figure 5, business has needed to have specific customer retention strategies in place just as they do for customer acquisition strategies. In order to have a clear understanding on effective retention strategies for a particular business, the business has a need to first understand customer retentions as a whole.

2.3   Retention

Ekinci *et al.* (2010) defined customer retention management as the development and implementation of a customer-centric marketing strategy for managing a company's interactions with specific customers or groups. As acquiring new business has been seen to be more expensive than maintaining existing business, improving current customer relationships has become pivotal for companies (Lariviere & Van den Poel, 2004). In order to effectively improve the relationships a business has with its' customers, the organisation has needed to comprehend who their customers are and what they want out of the relationship. By understanding their clientele, a system can be put in place to create alerts prior to a customer's departure and take appropriate actions to prevent it (Chang, Lee, Lin, & Wang, 2003). If one has planned on

surviving in a competitive and mature market, understanding and acting upon the changes in consumer behaviour is an inevitable part of staying competitive (Lariviere & Van den Poel, 2004).

2.3.1 Foreseeing Customer Churn

The current business environment within financial services has been portrayed as highly competitive and extremely saturated (Benoit & Van den Poel, 2012). As a result, businesses have started to recognise who their customers are and there has become a greater need to understand what factors have contributed to customer churn and to further predict who will defect.   The days where a company can use mass marketing blanket approaches to treat each customer the same is no longer a viable option into the current competitive markets (Benoit & Van den Poel, 2012).

There have been many attempts to create predictive models regarding customer defection. Lariviere and Van den Poel (2005) attempted to use random forest and regression techniques to predict customer retention and profitability together.   Camanho *et al. (*2012) attempted to model partial customer churn on the basis of the value of the first product that was purchased within a sequence of purchases. Benoit and Van den Poel (2012) investigated the use of mining kinship network data in order to use social networking to identify customers that will likely churn.   While there have been many attempts with many different perspectives, nothing exists that can cater for every company or organisations. A hazard model was created in order to detect the most convenient product grouping to cross sell in order to reduce the likelihood of churn (Lariviere & Van den Poel, 2004). The findings of such a study showed that in the given example, the maximum amount of products needed to be available from the same firm in order to provide the customer with the best fit products (Lariviere & Van den Poel, 2004).   The problem found was that in competitive markets, it has been impossible for a company

to be able to offer each and every available product to 100% of the market while their competitors are consistently searching for new ways of innovating (Lariviere & Van den Poel, 2004). In addition, these experiments needed to have been done in a field test in order to identify the actual impact of cross-selling on changing a churn prone customer into one that has a strong relationship (Lariviere & Van den Poel, 2004).

Gupta *et al.* (2006) stated that there are many different retention modelling techniques and defined them into two broad classes of retention models. The first class considered customer defection as a permanent loss of a customer and used different variations of hazard models to predict defection (Gupta *et al.,* 2006). The second type took into account the consideration of a customer switching to a competitor as a transient event and will often use variations of a Markov model and further elaborated on all the variations of the models for different contexts (Gupta *et al.,* 2006). While there have been several different types of models that exist, it has become apparent that any specific retention model would need to consider the context of the industry, economic conditions, the time frame and customise many factors based on the context in an ever changing environment. In all instances, the management of retentions would have had to know a great deal about their customers and manipulate these models based on the change in more recent customer behaviour. The better the management teams' understanding of customer behaviour, the better they can plan and create strategies and models with the intention to increase the longevity of customer relationships.

2.3.2 Improving Customer Retention

Customer retention has been a key measure in increasing long-term profitability (Ansari *et al.,* 2005). As it has such a large impact on business, it has become a new focus for marketers as it is an area where more sophisticated techniques and strategies have been implemented (Ekinci *et al.,*

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2010). It has also become a focal point in academic literature (Ekinci *et al.,* 2010). Recessionary periods in the global economy have also caused both business and academics to search for strategies and tactics that can be implemented in order to improve customer retention (Ekinci *et al.,* 2010). Ekinci *et al.* (2010) sought out improved retention management especially during recessionary times as firms often had to reduce costs as it was stated that acquiring new customers could be up to six times more expensive than retaining them. Many studies (Ekinci *et al.,* 2010) (Lariviere & Van den Poel, 2004)(Ansari *et al.,* 2005) have provided assurance that increasing the product holding or correctly cross-selling to existing customers has had an impact in increasing customer loyalty. Very few of these have declared the impact that increasing product holdings has had on a customer when operating in a highly competitive industry that is extremely price sensitive such as a short-term insurance industry. They have also not overlaid their findings within economies that are in difficult economic periods while also operating in a highly competitive industry.

Many mechanisms have been used in attempt to reduce churn such as improving service quality, targeting interventions to prevent churn, or loyalty programmes (Ansari *et al.,* 2005). Ansari *et al.* (2005) stated that there were mixed findings whether improved customer satisfaction and retention were linked. There is also the concern regarding how effective loyalty programmes are. In a study of six loyalty programmes, there were weak levels of excess loyalty as only two of the six programmes showed a significant level of repeat purchase behaviours (Sharp & Sharp, 1997). In addition Sharp and Sharp (1997) found within the two out of six successful rewards programmes, non-members showed similar behaviours to loyalty programme members. Conversely, other studies have shown that loyalty programmes that provide economic incentive positively affected customer retention.

Targeting intervention approaches often relied on predictive modelling and the difficulties around context and complexity have made it complicated to perfect. Certain factors could play a role in making one industry differ from another when considering interventions such as the maturity, competitiveness, price sensitivity or barrier for customers to switch.

With consideration of these factors, the remainder of the customer retention literature will focus on an industry that is fairly mature, highly competitive, is sensitive to price, and has low barriers for customers to move around. The purpose being that these characteristics create a highly volatile churn rate. One such industry that has these factors is the short-term insurance industry.

2.3.3 Customer Retention Within Short-Term Insurance

The top insurance companies have found ways to set themselves apart from the rest of the market in recent years (Detrick, Palmer, Tanner, & Wagner, 2007). The essential element in which these insurers have used to separate themselves from competitors has been through the identification of their most valuable customers and using them to cultivate organic growth (Detrick *et al.,* 2007). While the majority of companies have considered customer retention to be a top priority, the bulk of them have not been able to define customer retention nor measure it (Dak & Stone, 2007). Insurance companies have realized that the focus on customer retention has not been up to standard in order to maintain or increase market share and profits. This has been a critical concern as the high-performance insurers are required to deliver revenue increase at a steady pace in order to keep their stakeholders satisfied (Detrick *et al.,* 2007).

For insurance companies to tackle their concerns regarding existing customer loyalty they have needed to understand the reason for policy lapses. If an insurer has looked at the end to end experience of a customer beginning with

first contact and ending with policy cancellation, there have been many reasons that can cause a customer to churn. These reasons have ranged from affordability, covered for the correct product or amount, technical issues such as system failures, poor service, joining with the intention of leaving, problems with the on boarding process (Detrick *et al.,* 2007), and even the pricing strategies that offer marketing rates during the sales stage but not at renewal (Hughes, 2008). A poor claims experience has also left a negative impression for customers (Hughes, 2008) which could have increased their likelihood for considering other options. Insurers have also misjudged their ability to give their consumers what they want as a study showed that 77% of the companies involved believed they offered superior customer experiences, while only 6% of the customers agreed (Detrick *et al.,* (2007). All these impressions that have created negative customer experiences have been triggers that an organisation can identify and attempt to remedy before it is too late or even proactively avoid.

Many attempts have been made to identify characteristics of a customer that is more or less likely to be loyal within the insurance industry. Hughes (2008) broke down customer loyalty into four major categories:

1. Loyal Customers
2. Maybe – just switched and cannot tell
3. Modest – May have slight loyalty
4. Disloyal customers

Different demographics have been used such as gender, age, occupational status, suburb, social grade, media channel, car usage, claim history, cover type, tenure with previous insurer and others in attempt to pinpoint a more loyal customer as in the study conducted by Hughes (2008). Other characteristics that have been considered related to product holdings or how many family/household members or on the policy (Guillen *et al.*, 2008). While

certain traits such as older males were more likely to be more loyal and student to be less loyal in a given study (Hughes, 2008), there is still a lot of uncertainty of how to reduce lapse rates based on this. What has been proven to be more evident is the correlation between price sensitivity and the propensity for a customer to switch insurers (Hughes, 2008). Hughes (2008) found that the strongest identifying factor for high levels of disloyalty is the sensitivity of an individual to price. In conjunction with this Hughes (2008) found that only 19% of his sample was insured with the same company for a year as well as their previous insurer for less than a year showing the high levels of churn. Hughes (2008) also found that 43% of the market had not gone through more than one renewal cycle with their current insurer which indicates that they churned prior to a price increases.

2.4   Price Increase

During a period where economic times are difficult for many, a grudge purchase such as insurance has weighed heavily on a customer's wallet. As affordability has been a continuous concern for individuals (Detrick *et al.,* 2007), insurers have needed to be cognisant of the way in which they construct their pricing strategies as increased prices may have caused negative customer reactions (Evanschitzky *et al.,* 2008). Since price increases have been an obvious way to increase earnings (Evanschitzky *et al.,* 2008) it has constantly been a thought for insurers seeking to improve their profits. The key has been for insurers to segment their customer base and identify which customers are more willing to pay (Barone & Bella, 2004). Insurers must also be wary that customer markets have been characterised by long term relationships between buyers and sellers and the quality of the relationship will depend on the trustworthiness felt by a buyer (Renner & Tyran, 2004).

2.4.1 Pricing to attract the preferred customers

The insurance industry has been connected to the risk of the customers that have chosen to participate in it. An insurer would prefer good customers who are not expected to have any accidents and avoid bad customers who are expected to ask for high claim recoveries (Barone & Bella, 2004). A method for removing some of the customer perceived to be higher risk has been to price them out of the range they have been willing to pay. Price discrimination has occurred as it has allowed prices to match the price a customer has been willing to pay for the desired cover (Barone & Bella, 2004). Since the insurance industry has had low or no switching costs, an example of the Italian auto insurance industry displays that insurers only retained consumers that were charged less than their willingness to pay which depends on the risk aversion and the insured item (Barone & Bella, 2004).

2.4.2 Insurance Pricing to Optimise Firm Value

Since consumer behaviour is a discrete choice, consumers have been able to choose whether or not to accept a price increase by staying or leaving their service provider. This has fed into the optimal pricing policy that many insurers have taken as they are aware of the affect a price increase has. Barone and Bella (2004) explained that on the one hand optimising the price improves revenues; the flip side is it increases the switching probability of a customer and counters the increase by reducing expected revenue. This has caused insurers to consider how to relate their pricing strategies and their retention strategies in order to maximize the amount of customer equity and improve the value of the firm. By considering the price elasticity of a consumer, pricing has been used strategically to reach lower churn (Barone & Bella, 2004), but the insurer will need to have considered if the improved customer retention rate has been worth the sacrificed premium given up by not applying a higher price increase. This has been a consistent argument of

where is the optimal level that will maximise customer equity rather than reducing it by increasing prices too much and causing high levels of churn or not increasing enough and losing out on revenue that consumers were willing to pay.

2.4.3 Price Strategies

Discounting and price reductions strategies have been fairly common within the literature. This has been a result of the thought that lowering prices has a major influence in buying behaviours (Monroe, 1973). Some studies have focused on price promotions and their long-term effects (Hansens, Pauwels, & Siddarth, 2002) and others have investigated the effects of bundling products and different types of promotional discounts such as rebates, discounts, and free-options (Grewal & Munger, 2001).

The contrary pricing strategies surrounding increases have not been investigated in such depth (Evanschitzky, *et al.,* 2008) as most of the previous research done within the context of price changes has focused on price decreases (Homburg, Hoyer, & Koschate, 2005). Within Evanschitzky, *et al.* (2008) research, perceived fairness of a price increase deteriorates with elevated degrees of the price increase unless there has been an offsetting intervention. Homburg, *et al.* (2005) research provided support and indicated that customers' reactions to prices were strongly driven by the magnitude of the increase as well as the perceived fairness that motivated the increase. For companies to have been successful in changing prices, especially if it has been an increase in price, there has been a need to understand how the customer will react to such a change (Homburg, *et al.,* 2005).

2.4.4 Managing Price Increase for Improved Retention

Evidence has shown that price increases have had negative effects on customer retention, but consumers have given consideration to fairness of the increase and the reason for the increase (Homburg, *et al.,* 2005). Earlier results of studies indicated that what a company says about its price increase has an impact on the perceived fairness of it (Campbell, 1999). Campbell (1999) further explained that marketing communications can be used in order to increase the perceived fairness of a price increase and convince the public that their motives for the increase have been candid. The results of Homburg *et al.* (2005) found that satisfaction increased among customers when they felt the increase was fair and were able to justify the motivation for the increase. An earlier study provided similar results identifying that the right type of justification is required for a price increase in order avoid the amplification of a negative effect (Maxwell, 1999).

Maxwell (1999) found that justification was needed but of a different sort. This justification was that people responded to identifying they sacrificed more with a price increase as a result of biased attributions regardless of their culture (Maxwell, 1999). Maxwell further explained that if people are not given a reason for the increase, customers inferred the actions of the seller were not compliant with pricing practices that are acceptable. As a result, it is better to explain why the increase has occurred as opposed to allowing the customer to conjure up their own reasons. As further support, Renner & Tyran (2004) also found that in order to maintain a beneficial long term relationship between buyers and sellers, price increases had to have been mitigated through the justification of a cost increase for the seller. Without this justification, Renner and Tyran (2004) found that consumers were far more price rigid by the anatomisation of the price increase and less prone to be a loyal customer.

Evanschitzky *et al,* (2008) found that if price increases occurred in conjunction with the offering of an individualized service or product, a price increase was perceived less negatively as the extra premium appeared to be justified. Results suggested that consumers evaluated the additional offer better than if there was no reason for a price increase and that communication alone did not lead to a positive reaction (Evanschitzky, *et al.,* 2008). As a result the off-putting concept of paying more money was nullified to an extent and the relationship remained intact.

Evanschitzky *et al.* (2008) identified the weakness in their study as it occurred in a controlled laboratory environment within the context of the utility industry. In addition only 30 adults were used within the scope. Due to the fairly small sample and controlled environment, this study has low external validity. Maxwell (1999) also has low external validity as results were taken from a focus group with a primary focal point on identifying if collectivist or individualist cultures had an impact of price increase and customer loyalty.

2.5   Conclusion

Through an understanding that businesses in the service industry have shifted their focus to improving their customer equity in order to increase firm value, it is evident that customer retention is a vital component to understand (Gupta *et al.,* 2006). Many industries used price optimization methods in order to increase revenue as a key pricing strategy (Barone & Bella, 2004). For any business that increased price as a strategic method to increase profits, cover costs or any other reason, understanding how to reduce customer churn is necessary in order to continually increase customer equity. Evanschitzky *et al.* (2008) stated there are large gaps in the literature of price increases while reducing churn. While studies have been done within controlled environments and within limited contexts, there has been limited research within a field experiment and applied to a large sample of customers (Evanschitzky *et al.,*

2008). Within studies performed by Maxwell (1999) there was also limited external validity as studies were done though focus groups as well as in a different context. Most other studies such as Grewal and Munger (2001) focused on discounting price strategies and the literature on increase strategies has remained limited.

By identifying there has been a gap within the research, there remains an opportunity to investigate. There has been uncertainty as to what are specific interventions that could positively impact the retention rates of a customer based within a live environment where customers are free to do as they choose while receiving a price increase. Customers' reactions will also be within a different industry in order to add more depth and context to the literature. The results will be able to add an extra dynamic within academia in the space of customer retention, price increase strategies, and improving customer equity. This study will serve to answer what interventions companies can apply in order to successfully reduce churn while still giving price increases. This will increase their customer equity with a realistic approach in a dynamic and volatile industry.

Chapter 3: Research Hypothesis

Evanschitzky *et al.* (2008) refers to the equity theory (Adams, 1963) in order to narrate the relation between customers' relationship with a service provider. While Adams (1963) focused the concepts of equal input and outcomes in keeping a balanced relationship between an employer and employee, the same principle can apply to an insurer and a customer. The insurer provides cover for certain risk items and in turn the customer pays a premium. As long as the customer feels that the premium paid is worth the coverage provided, the relationship should maintain a balanced level. In order for insurance companies to continue to grow, it is likely they will give annual increase to the policy holders. Evanschitzky *et al.* (2008) further elaborates that at a time when a customer receives an increase in premium, the customer will feel in a state of inequity if all other things remain the same. The larger the increase is, the greater the feeling of inequality. In order to mitigate the feeling of inequality the insurer needs to proactively provide the customer with a level of understanding for the increase. In order to do so, it can be supposed that the following would reduce the negative feelings associate with the price increase and result in reduced churn rates.

3.1 Offering Additional Benefits

Evanschitzky *et al.,* (2008) found that applying an appropriate instrument such as an additional service could reduce the negative reaction of a customer. In order to allow the customer to feel their increase is justified, provide the customers that are identified as high value customers with an additional benefit that is relevant at the same time they receive their increase.

$H1_0$: There is no difference in policy lapse rates if you receive an extra benefit while receiving and annual review

$H1_a$: There is a difference in policy lapse rates if you receive an extra benefit while receiving and annual review

3.2 Justifying an Increase

Instead of merely sending a letter stating an increase in premium as per usual, initiate a discussion with the policy holder telephonically in order to have a conversation about the price increase. Renner and Tyran (2004) showed the customers' reactions to an increase are more positive when there is a justification for the increase. As Homburg *et al.* (2005) concurred that the customer's perception of a company's motive for the increase has an effect on their reaction, allowing the insurance company to speak directly with the customer allows for justification with customers that are most prone to churning. This conversation will give insurer the opportunity to explain any questions or uncertainties as to why the price has increased.

$H2_0$:   There is no difference in policy lapse rates if you receive a phone call advising you of your annual review

$H2_A$:   There is a difference in policy lapse rates if you receive a phone call advising you of your annual review

3.3 Justifying an Increase and Offering Additional Benefits

To magnify the justification of a price increase, both a telephonic conversation and an additional benefit can be offered to customers that are highly valued customers that are most prone to churn in order to ensure the customer feels that the relationship maintains equilibrium.

$H3_0$:   There is no difference in policy lapse rates if you receive an additional benefit and a phone call informing you of your annual review

$H3_A$:   There is no difference in policy lapse rates if you receive an additional benefit and a phone call informing you of your annual review

Chapter 4: Research Methodology

4.1   Introduction

This chapter focuses on the methods employed in conducting the examination that was necessary to understand if there were causal relationships between the hypothesised methods for successful intervention as delineated in chapter 3. As the initial investigation of the current literature around this subject pointed out in chapter 2, there is a further need of understanding in order to expand insight into successful intervention methods for reducing customer churn while simultaneously increasing prices. Within this chapter, details have been provided into the approach taken to ascertain if these intervention methods proved successful and can be further used for business purposes.

The type of research methodology that was implemented for this investigation was quantitative in nature. This quantitative approach was conducted in order to comprehend the casual relationship between different intervention methods and their ability to curb customer retention behaviour while receiving a price increase. The preferred use of a quantitative method places more emphasis on data that can be numerically manipulated in an approach that is more significant (Meyer & Page, 2000). The ability for the previously mentioned intervention methods to reduce customer churn while receiving a price increase were quantified in order to understand the significance of their causal relationship giving rise to the quantitative approach being used.

4.2   Research Design

A causal approach has been used to link ways in which customer behaviour can be modified while applying an increase in price. A causal study goes a level deeper than descriptive research by delving deeper into the justification

of a particular action through the identification of causal relationships between two essential variables (Lewis & Saunders, 2012). This level of further detailed insight is what is required to extend the understanding of the relationships between company actions and the impacts they have on their customers. Zikmund (2008) explained the purpose of causal research is to identify how particular variables have a cause and effect relationship amongst one another. As Zikmund (2003) described, there is generally a level of expectation regarding the relationship being investigated. In this case, it was the interventions and the customer cancellation rates.

Within this research design an experimental approach was taken by using a field experiment. Experimental research endeavours to establish a cause and effect type of relationship between specific variables by quantifying the strength of the relationship that is under observations (Meyer & Page, 2000). Experimental research allows for the researcher to control the situation so that the causal relationship among the variables being investigated can be measured and evaluated (Zikmund, 2008). Furthermore, the marketing experimenter manipulates a particular variable and holds all other relevant variables constant, which allows for a degree of control not possible within a survey (Zikmund, 2008). The degree of control makes the experimental use appealing and is part of the reason it has been used in this investigation. According to Zikmund (2008), within an experiment the independent variable is manipulated and the effect it has on the dependent variable is then measured while all other variables that may be present are controlled as much as possible. Lewis and Saunders (2012) concurred as they stated that the key components within any experiment are the manipulation of the independent variable, controlling the experiment by keeping all other variables constant, observing the effects the manipulated independent variable has on the dependent variable and predicting the events that will occur within the experiment.

The study of customer behaviour can be conducted within a natural setting, otherwise known as a field setting, or in an artificial setting known as a laboratory experiment (Zikmund, 2008), which can been seen in figure 6. The benefits of using a laboratory experiment have been the near complete control over the setting while in a field experiment there has less control over extraneous variables (Zikmund, 2008).

Figure 6: The artificiality of laboratory vs. field experiments
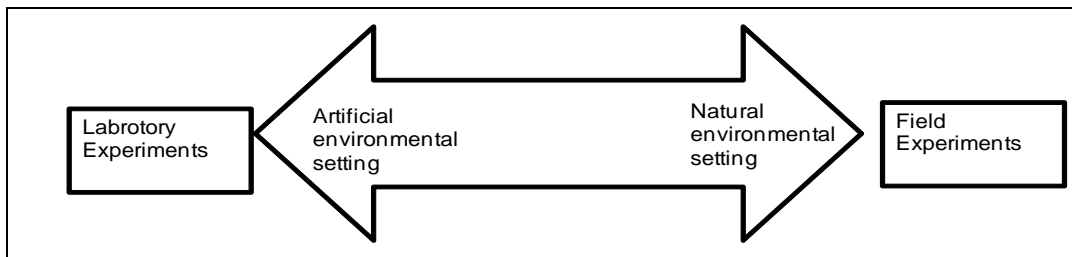
Alternatively, the inferences that have been made in laboratory experiments have not always translated into live environments. As other studies such as Evanschitzky *et al.* (2008) and Maxwell (1999) have stated, part of their limitations were related to laboratory setting with small samples. From these recommendations, the approach taken in this study has further expanded with the use of a field experiment in conjunction with a much larger sample.

Originally a factorial design was going to be used in order to accommodate for the various different intervention methods and the control groups that were separated for measurement. This approach was modified as the cooperating organisation required control over the population selection as a condition for experimenting on samples within their customer base. This has been further detailed in section 4.3. As a result of the lack of control within the selection process, a static group design was used. Within a static group design each subject is identified as part of the experimental group or the control group (Zikmund, 2008), which is split by whether they were exposed to the intervention or not. The experimental group is then measured after being

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exposed to the treatment and the control group is measured without having been exposed to the treatment (Zikmund, 2008). The results of the two groups are then compared in order to understand the impact of the exposure.

4.3   Population and Sampling

The scope within this research focuses on the short-term insurance industry within the South African environment. One of the larger short-term insurers within South Africa (The Insurer) agreed to take part in this experiment with conditions made regarding the selection of customers that would be exposed within the experiment and the condition of anonymity.

4.3.1 Population

Zikmund (2003) defined a population as an entire group, whether it is people, companies, stores, or others, that have a common set of features. The population element pertains to the specific individual within the population and the target population is the culmination of the specific population elements that are appropriate to the context of the research being done.

Within this research, the highest level of the target population was customers of The Insurer that received an annual price increase for their short-term insurance policy. This group was chosen as the short-term insurance industry in South Africa is price sensitive, volatile and not all customers receive an increase in their premiums ever year. Customers that were included had to have had an increase in their policy premium.

The target population was then further divided as a condition of participation from The Insurer. In order to select which customers would receive certain intervention methods, The Insurer provided categorical breakdowns based on

improvement in behaviours for particular customer types they wanted to try affect.

4.3.2 Sampling Method

Zikmund (2003) described sampling as a subset of a larger population where the process of sampling engrosses the use of any process identifying a subset of the whole population in order to infer conclusions regarding that population.

The original intention for the sampling method for this study was to use a random sampling technique to identify customers within the target population of customers receiving premium increases and apply the different interventions methods accordingly. Since The Insurer agreed to participate if they could control the sample method, this element was out of the researcher's control. As a result, a non-probability sampling technique was used. Zikmund (2003) explained that a non-probability sampling method is one in which units of a sample are identified on a personal judgement level or when an experienced individual selects the sample based on their judgement of an appropriate characteristic required of the sample member so that the sample serves a specific purpose. In this instance The Insurer identified two characteristics within the target population that would be used in order to identify which customers would be included in the sample and which customers receive the specific intervention methods.

The first characteristic used was customer profit optimisation levels. Customers were considered optimised if their profitability level based on their premium was high enough compared to their particular risk ratings. Customers' premium levels are measured on a scale where 1.0 is a level of break-even premium based on their specific risk profile, anything below 1.0 indicates unprofitable premium levels, and anything over 1.0 indicates a profitable premium level. The definition of the risk assessment and related

pricing was not divulged as it serves a method of competitive advantage within the industry. Within the larger target population, customers are considered optimised if the have a score of 1.5 or above. All customers within the target population receiving price increases with a score of 1.5 were included in the research. Identification of customers with a score of 1.5 and above and customer below the threshold were monitored in a binomial fashion as either above the threshold or below The reasoning for using this characteristic was due to the belief that these specific customers are consider very important as they have reached a premium level where they contribute major profits beyond recovering their acquisition costs. They are a group of customers that are considered highly valuable and The Insurer would be willing to spend more money and effort to retain these customers.

The second characteristic used was high lapse propensity. Similarly to the predictive customer churn modeling used in Lariviere and Van den Poel (2005), Camanho *et al. (*2012)*,* Benoit and Van den Poel (2012), Lariviere and Van den Poel (2004), and Gupta *et al.* (2006), the actuarial team of The Insurer identified each customer receiving a pricing increase as either having a high propensity to lapse or not, through the use of predictive modelling. This characteristic was identified using a binary indicator of either high lapse propensity or not. The reason The Insurer identified this characteristic as one to use for the experiment was due to the nature of the higher propensity to lapse, an intervention method should be used in attempt to reduce this behaviour.

4.3.2.1 Sample Breakdown

Based on these two characteristics, The Insurer create a 2 x 2 segmentation of customers that either had been optimised or not, customers that had a high lapse propensity or not, customers were optimised and had a high lapse propensity and customers that were neither optimised nor were they defined

as high propensity to lapse. Based on these groupings, different intervention methods were applied based on the characteristic of the group as shown in figure 7.

Figure 7: Intervention method breakdown

		Optimised	
		Yes	No
Lapse Propensity	Yes	Intervention 3	Intervention 2
	No	Intervention 1	No Intervention

Within each intervention grouping, a random sample was taken in order to serve as a control group in order to meet the requirements of the static group design. This would allow for each group to be compared the exposed group within each intervention method to a homogenous group of customer in order to identify any benefits.

4.3.3 Sample Size

The breakdown of the entire sample size and a split for each intervention group has been presented in Table 1.

Table 1: Intervention Method Breakdown

Intervention Method	Policies
Excess Voucher	28 002
Telephone Call	20 561
Excess Voucher & Telephone Call	5 488
Grand Total	**54 051**

4.4 Unit of Analysis

Zikmund (2003) defined the unit of analysis as the level of investigation that is focused on the collection of data about the entire group. The unit of analysis in this instance was The Insurer's customers receiving premium increases during the annual review stage as individuals and as groups when aggregated together when applying different intervention methods.

4.5 Research Experimental Assumptions

The Insurer that provided the opportunity for the experiment was assumed to have a customer base similar to that of other short-term insurers when reacting to price increases. It was also assumed that the levels of price increases are similar across the industry. It was assumed that no other major extenuating circumstances were triggered within 60 days following the communication of the price increase. It was also assumed that all customers receiving communications regarding the price increase were communicated the price increase on the same day.

4.6 Intervention overview

This experiment utilised a time frame of 60 days from the point of communication of the price increase. Once 60 days had elapsed, the status of each policy was assessed to see if the policy was still active with the Insurer or if it was cancelled. Waiting 60 days allowed sufficient time for a customer to be aware of the price increase and also understand the impact it has financially. Communications regarding the price increase occur 30 days prior to the increase becoming effective. An example would be communicating the increase on December 1st, 2012 for the premium increase to be effective on January 1st, 2013. This then allows for 30 days to elapse and for one to

two premiums to be paid. If a customer was not happy with the price increase, ample time was included for a customer to explore offerings from The Insurer's competitors and switch to one of them if desirable. This time period was sufficient for each customer to be fully aware of the price increase, yet it is not too long to have too many extraneous variables play a major role in altering customer behaviour. Zikmund (2008) described an extraneous variable as a variable that is outside the control of the experimenter and may uncontrollably affect the behaviour within the experiment. An example in this case a competitor could have had a large marketing campaign along with a price promotion at the same time as the experiment. The Insurer also advised that they consider a 60 day period the optimal amount of time to understand customer behaviour in relation to the price increase.

4.7   Data Collection

4.7.1 Data Collection

Each customer that received one of the intervention methods or made up one of the control groups had their policy flagged within The Insurers' system. Policies had further been marked based on which grouping they fell within. If the customer fell within intervention group one, an indicator was flagged on the policy stating it was part of group one. If the policy fell within intervention group two, and indicator was placed on the policy identifying it was part of group two and the same was done for policies within group three. For each policy in all three groups, an identifier was placed stating if it received the treatment or if it was a part of the control group. Since the three groupings were broken down based on whether the policy was optimised or not and whether it had a high propensity to lapse, each policy was distinguished as having these characteristics or not within their own field. These key measures such as optimisation, propensity to lapse, control group or not and others were all identified and a separate field was created for each within the data

set, but instead of having a description it was modified to a binary field for testing. Other demographic details were also included such as gender, age, policy tenure and others for each policy, but did not serve as key features for this study.

Included in the details for each policy were the date the initial communication was sent out and the period in which the price increase became effect. At 30 day intervals from the date of the communication an indicator was given if the policy was active or cancelled from 30 days to 180 days. The 60 day cancellation period served as the metric used in order to evaluate the effect of the price increase and the interventions.

4.7.2 Data Preparation

This entire data set was provided in one excel document. Once the excel document was received, key characteristics were modified so that they represented each key characteristic in the form of a binary field.

The description of which intervention group each policy fell in was changed to a 1, 2 and 3. The control or exposure indicators were modified to read 1 for exposure and 0 for control. Instead of stating optimised or not a 1 was placed in the field for every optimised policy and a 0 for every policy that was not. The same binary indicators were put in place for lapse propensity, cancellations within the different 30 day intervals from the point of communication and all other key measures for this study.

Once all key fields had been coded, the data set was exported into Statistical Packages for Social Sciences (SPSS) for detailed statistical analysis. Basic frequency tests were run to verify the data was loaded correctly by checking the policy counts within each test group and the allocation within the exposure groups and the control groups. Further checks were done to check that the

correct amount of policies were counted as cancelled at the different 30 day intervals and verified against the original data set provided in excel. Other descriptive characteristics were run in order to understand the demographic makeup of the sample which also served to ensure there were no data errors in the original data set or during the process of transferring the data into SPSS. Outliers would have been identified if they fell outside the general pattern expected such as 100% of policy holders being female, the increase received were of a negative amount, or if any fields were left blank. Basic descriptive cross tabulations were also created in order to view basic features and verify there were correct counts for each intervention group as well as control group break downs. All the data appeared accurate with no significant outliers identified.

4.8   Data Analysis

In order to understand whether the various intervention methods have a causal relation on customers' lapse behaviour the following techniques were used for data analysis

4.8.1 Descriptive   Statistics   Analysis   by   Cross-tabulation

According Zikmund (2003), descriptive analytics refers to the conversion of a raw data set into a form that makes them easy to understand for the reader or user of the data set. In order to analyse the differences among the groups within the data sets, a cross tabulation is used to allow for comparisons amongst these groupings and provides assistance into determining the type of relationship between multiple variables (Zikmund, 2003) (Chun & Kleyn, 2012). Descriptive statistical analysis by cross-tabulation was used in order to breakdown the data set of 54,051 records into their correct groupings by

intervention method, by exposed or control group and by how many cancelled within the first 60 days. This was analyses by absolute figures as well as by percentage in order to compare difference size test groups.

4.8.2 The Pearson Chi Squared Test

The Chi Squared (X^2) test was used in this analysis as the primary measure for understanding the different relationships between the categorical variables that fall into this study, namely the different intervention methods and their control groups. By doing so it has allowed the researcher to identify if the different variables are independent. While the initial intention was to use a MANOVA test, the circumstances of the sample prevented this from happening. This was due to the fact that the sample for each of the three interventions had different characteristics. The sample selection was based on characteristics that made each sample a different, disallowing the measurement of each group against one another. The customers that fall within the second intervention method all of a high propensity to lapse while all the customers in that will have intervention one applied are customers that specifically do not have a high lapse propensity. This example provides the specific detail why the one cannot be compared to the other but would need to be compared to its own control group and then measure the differences between the exposed group and the control group of each intervention. The differences between the exposed and control group for each would then need to be compared.

The X^2 test is a statistical assessment for investigating differences with categorical variables and is often used to examine hypotheses (Laymon & Weiss, 2002). According to Laymon and Weiss (2002) the X^2 test is used for two similar yet distinct situations:

1. Estimating how closely an observed distribution matches an expected distribution, otherwise known as goodness-of-fit test and

2. Estimating if two variables are independent known as Pearson Chi Squared test

In this instance, this study was interested in whether certain variables are independent. With the use of the X^2 test, we tested whether the intervention methods have a relation with the lapse behaviour of the customers. With the three hypotheses already established, they will have expected values for each cell calculated, have a X^2 statistic calculated for each hypothesis using the expected and observed amounts, have significance levels assessed through the use of degrees of freedom and identify whether their levels are significant enough to accept or reject the different null hypotheses. In conjunction with the X^2 test, a Z test is also performed in order to identify any levels of significance between the interventions having a positive effect on the customers' cancellation behaviour when it is applied to the exposed group compared to the control group.

4.9   Validity

In order for the results of this study to be considered legitimate, deliberation was given as to the validity and reliability of the experiment performed. When evaluating the experimental design used, there must be a determination of whether there is internal validity and external validity.

4.9.1 Internal Validity

Zikmund (2008) defined internal validity as whether the experimental treatment was the sole cause of the observed changes in the independent variable and if the observed results were influenced by extraneous factors.

This serves to understand if there was a true cause and effect relationship. If the observed results can be attributed to the experimental treatment, the experiment will be internally valid (Zikmund, 2008). The following extraneous variables were taken into account when considering the possible effects on the experiment:

- History effect. This refers to specific events within the external environment between the first and second measure that are out of the control of the experimenter (Zikmund, 2008). During the course of the experiment, the researcher was cognoscente of any marketing campaigns from competitors that were excessive or out of the ordinary and none were noted. This gave comfort that the history effect did not alter the results of the experiment. The history effect did not impact the internal validity

- Maturation effect. This refers to the effect on the results of an experiment caused by experimental subjects maturing or changing over time (Zikmund, 2008). The maturation effect was mitigated by using the measure of 90 days from the point of communication in order to measure customer behaviour. This limited the amount of time that the subject had to change their minds due to maturation. As a result, the maturation effect does not make the experiment internally valid.

Other effects such as testing effect, instrumentation effect, selection effect and mortality effects were considered but had no impact as they did not play a role within this experiment. With these all taken into account when designing the experiment and within the data collection process, the experiment was internally valid.

4.9.2 External Validity

Zikmund (2008) defined external validity as the ability for the experimenter to generalise beyond the experimental data to other subjects or groups within the population under study. The majority of concerns relating to external validity have related to any specific set of experimental conditions that will not deal with interactions of untested variables within the real world (Zikmund, 2008).

External validity is not a concern within this experiment. Since this experiment has used a field experiment, it provides all the natural settings that occur. As a result, this experiment has been viewed as externally valid.

4.10   Limitations

While an attempt was made to reduce the amount limitations within this study, it was near impossible to eliminate all limitations. The limitations that fall within this research were as follows:

The sampling process within this research was not ideal. As part of the agreement with the participating insurance company, The Insurer created the sample used within this research. As a result of no control over this area, a specific sample of customers was provided. These specific samples did not necessarily include all member of the general population as it focused on customers that were optimised and/or had a higher propensity to lapse. While Chapter 2 identified that these are characteristics that businesses should be aware within their customer base, it was not the most ideal selection in this instance. In future studies, a completely random sample would be preferred in order to generalise any findings to the entire general population.

Secondly, within the data set it was clear that there were several types of demographics that fell within the sample set. Within Hughes (2008) and

(Guillen *et al*,. 2008), there were findings implicating different behaviours from different types of groups such as gender, age, suburb, product holdings and many more. This study has not analysed any breakdowns between these types of characteristics and is only limited to customers that are either price optimised, have a high propensity to lapse or both. In further research, certain of these characteristics could be considered within this context.

Finally, the identification of what defines a customer as having a high lapse propensity was not defined in detail. Since the information provided regarding what makes a customer have a high lapse propensity was at a high level, it will be difficult for future studies to reproduce these high lapse propensity characteristics. In order to do so, the same type of propensity modelling would need to be applied and this method was not provided. Similarly and understandably, the detailed calculations in identifying customers as optimised were also only provided at a high level. This would also be difficult to reproduce as different insurers or other financial institutions may have much different pricing models and consider customers optimised at different stages.

4.11   Conclusion

The preferred approach of using quantitative research is that it places a larger emphasis on information that can be numerically manipulated in a more meaningful way and has been the traditional scientific approach to research (Meyer & Page, 2000). This chapter detailed how the use of qualitative research design were employed to experiment and understand how successful were particular intervention methods in reducing customer churn while increase their premium. The use of an experiment gave the researcher the ability to identify if these interventions had a cause and effect relation within a field test allowing for a new understanding within this area of study.

With the understanding of the methodology detailed in this section, Chapter 5 will provide the results.

Chapter 5: Research Results

5.1 Introduction

Within Chapter 5, the results of the statistical analysis are presented. In order to present the results in a logical progression the chapter will begin by presenting a descriptive breakdown of the three intervention methods, the division within each intervention group of policy holders that were exposed to the intervention or kept with the control group and a breakdown of how many cancelled within the first 60 days following the communication of the price increase.

Following the descriptive statistics, detailed results of testing will be provided for each hypothesis. The expected number of cancellations and the actual values will be presented and whether the Chi-Squared statistic for the specific intervention is significant when comparing the exposed group and the control group. If the Chi-square statistic is significant, the results of a Z-test will be presented indicating if the intervention method had a positive or negative influence on the customers' churn behaviour.

Following the breakdown of each hypothesis, the results will be summarised giving a clear picture as to how the results of each intervention method compare to one another.

5.2 Descriptive Statistics

As indicated in Table 1, there are a total of 54,051 policy holders of The Insurers that took part in this study. These policy holders were split into the three intervention methods namely; a voucher that would eliminate the excess a policy holder has to pay in the event of a claim, receiving a telephone call as

the method of communication regarding the price increase in order to allow for justification and a more customer focused conversation as opposed to the standard letter and receiving both a voucher and a telephone call. Table 2 provides a view of the breakdown of the 54,051 polices into the different intervention methods and provides a breakdown within each intervention group as to how many were exposed to the intervention and how many made up the control group.

Table 2: Exposure Group within the Intervention Methods

Intervention Method	Test Group	Policies	Intervention Group Allocation
Voucher	Control Group	5168	18.46%
	Exposed Group	22834	81.54%
Voucher Total		**28002**	
Phone	Control Group	4268	20.76%
	Exposed Group	16293	79.24%
Phone Total		**20561**	
Voucher & Phone	Control Group	831	15.14%
	Exposed Group	4657	84.86%
Voucher & Phone Total		**5488**	
Grand Total		**54051**	

As seen in Table 2, each intervention group has a large sample and a control group that ranges between 15-21% of the intervention method sample. The large sample within each exposed and control group will provide a sufficient view into the behaviour within each intervention.

Within chapter 4, the optimal time to measure whether customers' policies have cancelled is 60 days after communication has been initiated with the customers regarding their price increase. Table 3 provides the descriptive details as to how many policies in the exposed and control groups within each intervention have cancelled within 60 days of the communication as an absolute figure and a percentage allocation within each intervention method.

Table 3: 60 Day Cancellations

Intervention Method	Test Group	Policy Count		Percentage Allocation		Total Policies
		Cancelled	Active	Cancelled	Active	
Voucher	Control Group	359	4809	6.95%	93.05%	5168
	Exposed Group	1527	21307	6.69%	93.31%	22834
Voucher Total		**1886**	**26116**	**6.74%**	**93.26%**	**28002**
Phone	Control Group	543	3725	12.72%	87.28%	4268
	Exposed Group	2222	14071	13.64%	86.36%	16293
Phone Total		**2765**	**17796**	**13.45%**	**86.55%**	**20561**
Voucher & Phone	Control Group	59	772	7.10%	92.90%	831
	Exposed Group	250	4407	5.37%	94.63%	4657
Voucher & Phone Total		**309**	**5179**	**5.63%**	**94.37%**	**5488**
Grand Total		**4960**	**49091**	**9.18%**	**90.82%**	**54051**

Table 3 shows that giving customers vouchers as opposed to treating them within the standard way has a slight benefit as 6.69% of the exposed group have cancelled within the first 60 days while the control group is slightly higher at 6.95%. Table 3 shows that contacting customers by telephone causes more customers to cancel as the exposure group has 13.64% cancel within 60 days while the control group had less with 12.72% cancelled. In Table 3 it can be seen that the group receiving a voucher as well as a phone call has the largest positive difference as the exposed group had 5.37% of the policies cancel while the control group had 7.37%. While this appears to be the largest positive difference between an exposure group and a control group, it is unclear whether any of these differences are statistically significant.

In order to identify if each intervention method serves to positively influence customers' retention behaviour on a significant level, the Chi-Square tests are applied in order to identify if the intervention and the cancellation rate are independent of each other.

5.3   Hypothesis 1: Excess Voucher

As indicated in the descriptive statistics, the exposed group that received an excess voucher performed slightly better than the control group when viewing the percentage of polices cancelling within 60 days. The exposed group's cancellation rate is 3.73% lower than the control group. This can be seen in shaded area in Figure 8.
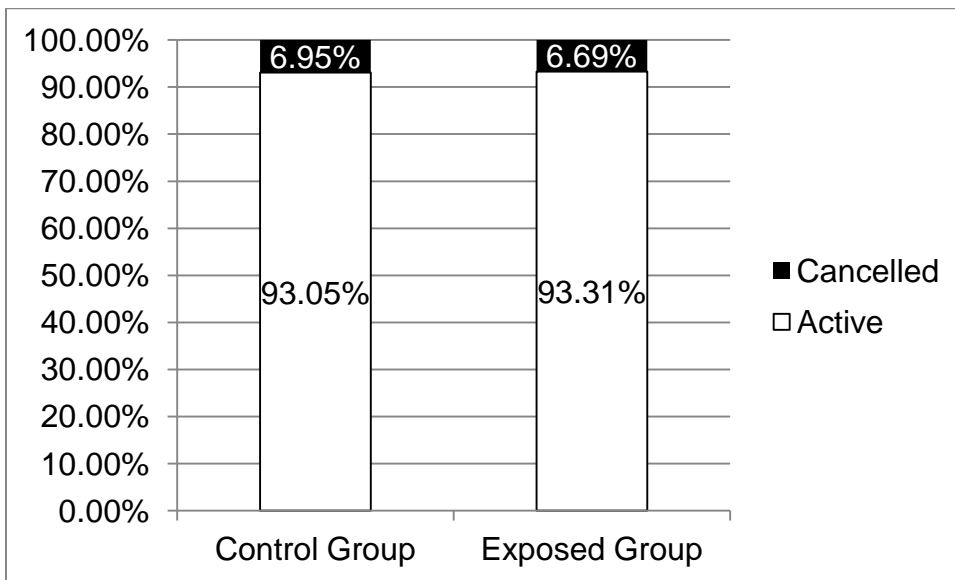
Figure 8: Voucher Cancellation Rates

Table 4 depicts the Chi-Square calculations of how many policies were expected to cancel and how many actually did for the exposed and control group for customers selected to receive an excess voucher.

Table 4: Voucher Expectation Cross-Tabulation

Intervention				Test Group		Total
				Control Group	Exposed Group	
Voucher	60 Day Cancellation	Active	Count	4809$_a$	21307$_a$	26116
			Expected Count	4819.9	21296.1	26116.0
			Std. Residual	-.2	.1	
		Cancelled	Count	359$_a$	1527$_a$	1886
			Expected Count	348.1	1537.9	1886.0
			Std. Residual	.6	-.3	
	Total		Count	5168	22834	28002
			Expected Count	5168.0	22834.0	28002.0
Each subscript letter denotes a subset of test group categories whose column proportions do not differ significantly from each other at the .05 level.						

As can be seen in in the results of Table 4 the expected cancellation counts for the control and test group are very close to the actual counts. Subscript "a" within Table 4 indicates that there is no significant difference in the Chi-Square statistics between the control and test group at a significance level of 0.05. Table 5 gives final assurance that the exposed group does not differ significantly from the control group as the significance level is 0.502 with 1 degree of freedom which is much larger than the acceptable significance level of 0.05.

Table 5: Voucher Pearson Chi-Square Test

Intervention Method 1		Voucher
60 day Cancellations	Chi-square	.451
	Degrees of Freedom	1
	Sig.	.502

5.4   Hypothesis 2: Telephone Call

The descriptive statistics provided insight that making a telephone call to a designated group of customers did not have a positive impact on customer retention. The exposed group that received a telephone call to discuss the price increase and allow for justification had a 60 day cancellation rate of 13.64% while the control group had 7.19% less policies cancel with a 60 day cancellation rate of 12.72% as presented in Figure 9.

Figure 9: Telephone Cancellation Rate
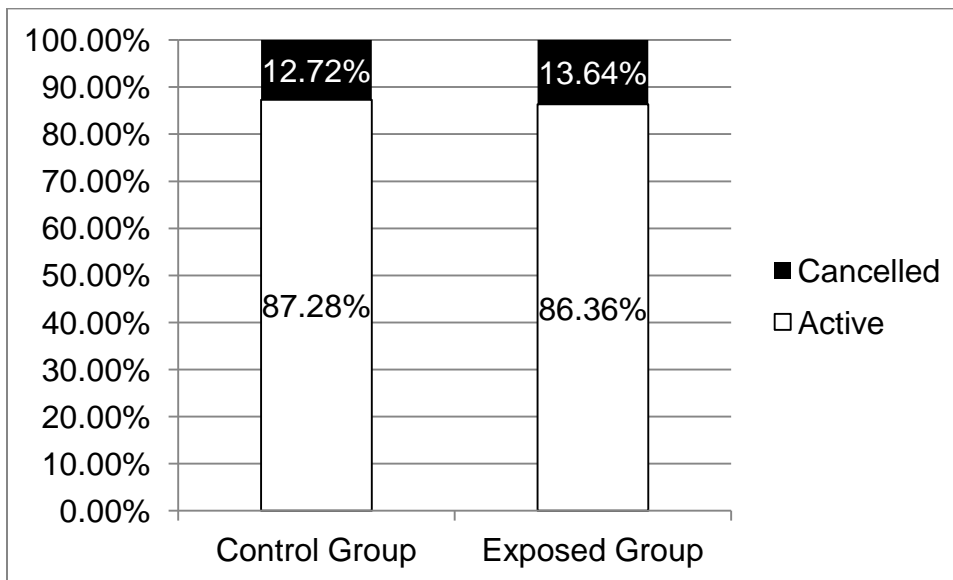
Table 6 depicts the Chi-Square calculations of how many policies were expected to cancel and how many actually did for the exposed and control group for customers selected to receive a phone call. In Table 6, it is clear that the expected cancellation count of the exposed group was 2,191.0 but that actual amount was greater as 2,222 actually cancelled. This control group performed inversely as 574 policies were expected to cancel but only 543 did cancel. This further identifies that the phone call does not have a positive impact on customer churn behaviour while receiving a price increase.

Table 6: Telephone Expectation Cross-Tabulation

Intervention				Test Group		Total
				Control Group	Exposed Group	
Phone	60 Day Cancellation	Active	Count	3725_a	14071_a	17796
			Expected Count	3694.0	14102.0	17796.0
			Std. Residual	.5	-.3	
		Cancelled	Count	543_a	2222_a	2765
			Expected Count	574.0	2191.0	2765.0
			Std. Residual	-1.3	.7	
	Total		Count	4268	16293	20561
			Expected Count	4268.0	16293.0	20561.0
Each subscript letter denotes a subset of test group categories whose column proportions do not differ significantly from each other at the .05 level.						

The results of Table 6 recognise the expected cancellation counts for the control and test group are fairly close to the actual counts; however they have an inverse relationship as to what was expected. Subscript "a" within Table 6 indicates that there is no significant difference in the Chi-Square statistics between the control and test group at a significance level of 0.05. Table 7 provides more clarity that the exposed group does not differ significantly from the control group as Chi – Square statistic is 2.434 and the significance level is 0.119 with 1 degree of freedom which is greater than the acceptable significance level of 0.05. Making a phone call does not have a significant impact despite the negative relationship between the phone call and customer retention behaviour.

Table 7: Voucher Pearson Chi-Square Test

Intervention Method 2		Voucher
60 day Cancellations	Chi-square	2.434
	Degrees of Freedom	1
	Sig.	.119

5.5   Hypothesis 3: Excess Voucher and Telephone Call

As seen in the descriptive statistics, providing customers with an excess voucher and making a telephone call to a designated group of customers had a positive impact on customer retention. The exposed group that received a voucher that would eliminate their excess in the event of a claim and a telephone call to discuss the price increase and allow for justification had a 60 day cancellation rate of 5.37% while the control group had 24.39%% more policies cancel with a 60 day cancellation rate of 7.10% as presented in Figure 10. What is unclear from this simplistic view is the significance level between the exposed and control group.

Figure 10: Telephone and Voucher Cancellation Rate
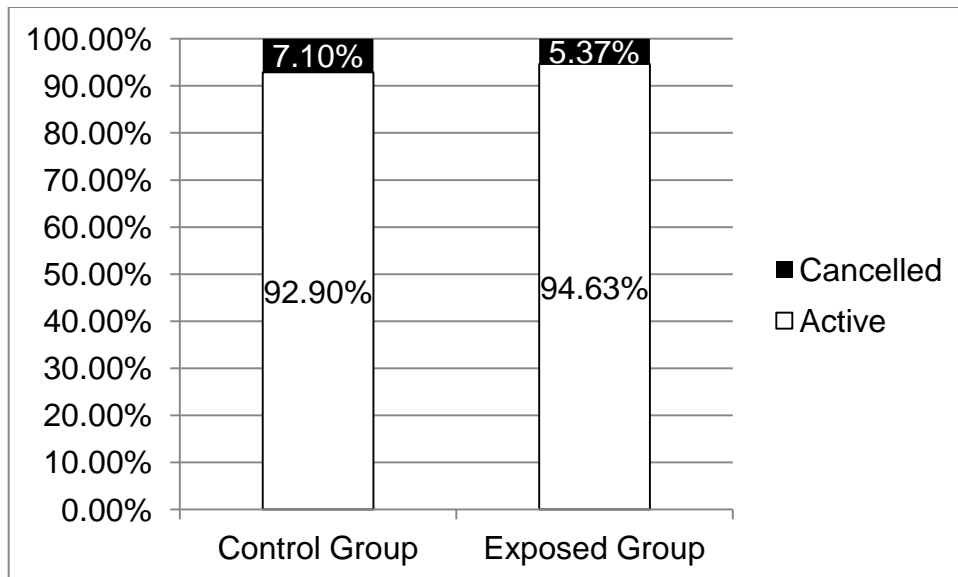
Table 8 depicts the Chi-Square calculations of how many policies were expected to cancel and how many actually did for the exposed and control group for customers selected to receive a voucher and a telephone call. In Table 8, it is clear that the expected cancellation count of the exposed group was 262.2 but that actual amount was less with 250 policies actually cancelled. This control group performed inversely as 46.8 policies were

expected to cancel but 59 actually did. This demonstrates that the voucher and telephone call has a positive impact on customer churn behaviour while receiving a price increase,

Table 8: Voucher and Telephone Expectation Cross-Tabulation

Intervention				Test Group		Total
				Control Group	Exposed Group	
Voucher and Phone	60 Day Cancellation	Active	Count	772$_a$	4407$_b$	5179
			Expected Count	784.2	4394.8	5179.0
			Std. Residual	-.4	.2	
		Cancelled	Count	59$_a$	250$_b$	309
			Expected Count	46.8	262.2	309.0
			Std. Residual	1.8	-.8	
	Total		Count	831	4657	5488
			Expected Count	831.0	4657.0	5488.0
Each subscript letter denotes a subset of the test group categories whose column proportions do not differ significantly from each other at the .05 level.						

The results of Table 8 recognise the expected cancellation counts for the control and test group are fairly different to the actual counts. Contrarily to the groups receiving only a voucher or only a phone call Subscript "a" and "b" within Table 8 indicates that there is a significant difference in the Chi-Square statistics between the control and test group at a significance level of 0.05. The different subscript for the actually counts identifies that these proportions have a significant difference. Table 9 provides further transparency that the exposed group differs significantly from the control group as Chi –Square statistic is 3.979 and the significance level is 0.046 with 1 degree of freedom identifying that the Chi-Square statistic is significant at a level of 0.05. Providing a voucher and making a telephone call has a significant impact on customer retention behaviour.

Table 9: Voucher and Telephone Pearson Chi-Square Test

Intervention Method 3		Voucher
60 day Cancellations	Chi-square	3.979
	Degrees of Freedom	1
	Sig.	.046

5.6   Summary

In order to understand how the three different intervention methods compare against one another, a summary view is provided of the three interventions and their Chi-Square statistic results. To gain further confidence within the data set, Table 10 presents that there were no missing cases within all three intervention methods and that all cases were valid and used in totality.

Table 10: Case Processing Summary

	Cases					
	Valid		Missing		Total	
	Number	Percent	Number	Percent	Number	Percent
Policies Processed	54051	100.0%	0	0.0%	54051	100.0%

Table 11 presents the results of the Chi-Square test of all interventions side by side.

Table 11: Total Pearson Chi-Square Test

		Voucher	Phone	Voucher & Phone
60 day Cancellations	Chi-square	.451	2.434	3.979
	Degrees of Freedom	1	1	1
	Significance Level	.502	.119	.046[*]
Results are based on nonempty rows and columns in each innermost sub-table				
* The Chi-square statistic is significant at the .05 level				

When viewing the Chi-Square statistics side by side, it is clear that the intervention of providing only a voucher had the least impact indicated by the lowest Chi-Square statistic and the lowest level of significance in relation to the 0.05 level. The telephone call has a larger impact on the customer behaviour as the Chi-Square statistic was 2.43 with a significance level of 0.119. Although the telephone call had a larger impact than the voucher, it remains at a level that is not significant. The group receiving the voucher and the telephone call has the largest Chi-Square statistic of 3.979 indicating that it is far more likely to have an impact on customer behaviour. The significance level of 0.046 identifies that the Chi-Square statistic is significant at a 0.05 level and has an impact on customer behaviour.

While the Chi-Square statistic being significant does not identify if the impact is positive or negative, the results of a Z test prove that the voucher and telephone call have a positive impact on customer behaviour as can be seen in Table 12.

Table 12: Comparison of Column Proportions [a]

		Intervention Method					
		Voucher		Phone		Voucher & Phone	
		Test Group		Test Group		Test Group	
		Control Group	Exposed Group	Control Group	Exposed Group	Control Group	Exposed Group
		(A)	(B)	(A)	(B)	(A)	(B)
60 Day Cancellations	Active						A
	Cancelled					B	
Results are based on two-sided tests with significance level 0.05. For each significant pair, the key of the category with the smaller column proportion appears under the category with the larger column proportion.							
a. Tests are adjusted for all pairwise comparisons within a row of each innermost sub-table using the Bonferroni correction.							

As the third intervention method of giving a voucher and making a telephone call is the only one that is statistically significant, there is still the necessity of

identifying that the intervention method had a positive impact statistically. Table 12 provides this view as can be seen based on the results of the two-sided test at with a significance level of 0.05. By identifying the key of A within the active row under the exposed group, we conclude that there are a smaller proportion of active policies in the control group compared to the exposed group. In conjunction, the key of B within the cancelled row under the control group indicates that there are a small proportion of cancelled policies in the exposed group when compared with the control group.

5.7   Hypothesis Results

The null hypotheses from chapter three are revisited in order to conclude the successfulness of each intervention method.

5.7.1 Offering Additional Benefits

$H1_0$:   There is no difference in policy lapse rates if you receive an extra benefit while receiving and annual review

Based on the results presented in this chapter, the null hypothesis is not rejected as there is no difference in policy lapse rates when receiving an extra benefit while having a price increase as indicated by the significance level of the Chi-Square statistic of 0.502 compared to the acceptable significance level of 0.05.

5.7.2 Justifying an Increase

$H2_0$:   There is no difference in policy lapse rates if you receive a phone call advising you of your annual review

Based on the results presented in this chapter, the null hypothesis is not rejected as there is no difference in policy lapse rates when receiving a telephone call in order to justify a price increase as indicated by the significance level of the Chi-Square statistic of 0.119 compared to the acceptable significance level of 0.05.

5.7.3 Justifying an Increase and Offering Additional Benefits

$H3_0$: There is no difference in policy lapse rates if you receive an additional benefit and a phone call informing you of your annual review.

Based on the results presented in this chapter, the null hypothesis is rejected as there is a difference in policy lapse rates when receiving an additional benefit and telephone call in order to justify a price increase as indicated by the significance level of the Chi-Square statistic of 0.046 compared to the acceptable significance level of 0.05. The results of the 2-sided test indicated that the intervention had a positive impact as less policies cancelled when having this intervention method applied compared to the control group that did not receive it.

Chapter 6: Discussion of Research Results

6.1 Introduction

Chapter 5 provided a detailed breakdown of the results of the experimental field test performed on The Insurer's customers as three intervention methods were applied while they received a price increase for the premiums. This was an attempt to curb their customer churn. As identified in chapter one and two, there was a gap in previous studies on the topic of successfully introducing an intervention that would reduce customer churn behaviour while still applying an increase.

This chapter elaborates on the findings of the previous chapter by breaking down the outcomes of each intervention, relating the findings to previous studies and providing deeper insight into any conclusions that can be taken away from the type of intervention. After an in depth understanding of the outcomes from each of the three experiments, all concerns within the current study will be raised in order to provide guidance and clarity into further research.

6.2 Results of Offering a Benefit

The results presented in Chapter 5 clearly demonstrated that offering customers an extra benefit in the form of an excess voucher while increasing the price of their premium did not have a significant impact on their retention behaviour. While the group that received the benefit cancelled 3.73% less than the control group, the improvement was great enough compared to the control group as the significance level of the Chi-Square statistic was 0.502 as presented in Table 11. Based on this we cannot infer that offering the extra benefit caused the cancellation rate to decrease. The two variables, receiving

a benefit and cancelling a policy within 60 days of communication of the increase, are independent and there is no defining causal relationship between offering this benefit and a reduced 60 day cancellation rate. In a live environment, this opposes part of the views found by Evanschitzky *et al.* (2008) as not just any benefit will give the customer a feeling of equilibrium following a price increase.

6.3   Results of Justifying an Increase

The results presented in Chapter 5 established that contacting a customer telephonically in order to have a conversation and justify the price increase of their premium did not have a significant impact on their retention behaviour. Within the descriptive statistics, it was evident that the group exposed to the telephone call performed worse than the control group as 13.64% of exposed group cancelled their policies within the first 60 days while the latter only cancelled 12.72% as seen in Table 3. The exposed group cancelled 7.19% more than the same type of customer that did not receive the phone call. This provided a very early indication prior to further statistical testing that attempting to justify a price increase by contacting the customer via telephone had a more detrimental impact than The Insurer's standard practice of mailing a letter communicating the price increase.

This intervention method still underwent statistical testing and showed that there was no significant difference between the exposed groups cancellations compared to the control group as the Chi-Square statistic had a significance level of 0.119 as seen in Table 11. Even though the exposed group performed worse off than the control group, it was not at a level that was significant when comparing the actual amount of polices cancelling against the expected amount. Based on this we cannot infer that contacting the customer telephonically in order to justify the price increase had a significant impact on the cancellation rate of the customers within this intervention method. The

two variables, receiving a telephone call for justification and cancelling a policy within 60 days of communication of the increase, are independent and there is no defining causal relationship between offering this method of justification and a reduced 60 day cancellation rate. While Renner and Tyran (2004) had the view that a customer's reactions to an increase a more positive when there is justification, these results oppose their findings. While this does not completely oppose the findings of Renner and Tyran (2004), it does suggest that the method for providing justification could have an impact on how the customer reacts to a justification. The method in which a company justifies an increase may require further investigation if it is to support the views of Homburg *et al.* (2005) and Renner and Tyran (2004) that justification of an increase mitigates customer churn behaviour.

6.4   Results of Justifying an Increase and Offering a Benefit

The results presented in the previous chapter substantiate that contacting a customer telephonically to justify the price increase of their premium and also giving them an additional benefit in the form of an excess voucher in the event of a claim did have a significant impact on their retention behaviour of this sample of customers. Within the descriptive statistics, it was evident that the group exposed to both the voucher and the telephone call had improved retention rates compared to the control group as 5.37% of exposed group cancelled their policies within the first 60 days, while the control group had 7.10% of the policies cancel as seen in Table 3. The exposed group cancelled 24.39% less than the same type of customer base which was segmented based on high profit optimisation levels and high lapse propensity. This gave an appearance that this intervention had an impact on customer retention behaviour, but a Pearson Chi-Squared test is needed in order to confirm if this variance can be attributed to the intervention as a causal affect.

After performing the Pearson Chi-Square testing, it is clear that there is a relationship between applying this intervention method and reduced customer churn within 60 days of the increase notification as the Chi-Square statistic has a significance level of 0.046 as seen in Table 11. In order to ensure that the significance level is in the direction of positive customer retention behaviour a 2-sided test with a significance level of 0.05 level was performed. The results in Table 12 confirm that providing the customers with the benefit and phone call is significant and leads to less cancellations. The expected number of cancellations is significantly less for the exposed group when compared to the control group.

Based on this we can deduce that giving the customers a benefit and contacting the customer telephonically in order to justify the price increase had a significant impact on the cancellation rate of the customers selected for this intervention method. The two variables, the intervention and cancelling a policy within 60 days of communication of the increase, are not independent. This leads to the result that there is a causal relationship between applying this intervention and reduced cancellations. Providing customers with an additional benefit and speaking with them instead of sending a letter leads to less cancellations when increasing the premium of a policy. It creates a positive touch point as the customer gets an extra benefit and additional justification This indicates that this method is successful as an intervention method in curbing customer retention rates while receiving a price increase.

6.5   Results Compared to Prior Studies

As discussed in Chapters 1 and 2, there has been an increased focus on maintaining existing customers and creating a successful strategy for customer relationship management (Hughes, 2008)(Camanho, *et al.,* 2012) (Ansari, *et al.,* 2005) as it is less costly to maintain a customer base than acquire a new one (Lariviere & Van den Poel, 2004). A lot of attention has

been given in predicting customer lapse propensity such as studies done by Lariviere & Van den Poel (2005), Camanho *et al.* (2012) and many others. Similarly to some of these methods, The Insurer used a comparable type of lapse propensity modelling in selecting the sample of customers for the interventions applied to second and third hypothesis.

Blattberg *et al.* (2003) emphasised that not all customers can be treated the same way as they are not all created equally. The use of segmentation is becoming more relevant as businesses will want to apply different strategies in order to retain their most profitable customers and increase their loyalty (Lemon *et al.,* 2004). This provides insight as to the underlying reasons The Insurer selected customers that were deemed optimised to be included in the samples used for the interventions applied in hypothesis one and two. As many previous studies have focused on identifying high value customers and customers that will likely churn, this study has embodied both areas as the sample selected to receive the vouchers as an additional benefit were highly profitable customers, customers selected to receive a phone call were identified as having a higher propensity to lapse, and the sample for customers receiving both the voucher and the phone call overlapped as the sample was made up of highly profitable customers that had a high propensity to lapse.

While identifying potential customers that will lapse is a challenge on its own and considering which customers are most important to retain creates its own level of complexity, successful interventions need to be created in order to manage customers (Gorgoglione & Panniello, 2011) This study has targeted such interventions in an attempt to mitigate customer churn while increasing their price. It has attempted to isolate customers that fall on the end of the spectrums of lapse propensity, high value and both. The necessity for this study is evident as improved customer loyalty leads to increased long term profitability of that customer and results in a higher CLV (Gupta, *et al.*, 2006).

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Evanschitzky *et al.* (2008) also emphasised how many companies will use price increase to boost revenues. By combining this with increased customer retention, the firm value would increase dramatically.

Within this study, three separate intervention attempts were made with the intention of finding a way to mitigate the negative impact price increases have on customer churn. Evanschitzky *et al.* (2008) found that businesses need to find ways to reduce the negative view customers have about prices increase. This is supported by the view that customers will only pay what they are willing to pay for the value of the service they are receiving and not anything more (Barone & Bella, 2004). By increasing the price of insurance, a customer will be more likely to churn (Hughes, 2008) as they will feel they are paying more for the same causing a state of inequity.

In order to apply an increase for premiums, the customer needs justification in order to be comfortable with the price increase. In this experiment an attempt was made to justify the price increase by offering an additional benefit. Evanschitzky *et al.* (2008) attempted this and found it to be successful, however the sample was in a laboratory setting and on a very small sample. When testing the first hypothesis as to whether offering an additional benefit would reduce customer cancellation rates while receiving a price increase, the findings of this study were not significant enough to support Evanschitzky *et al.* (2008). While this study was in a field experiment and on a very large sample, the improvement in cancellation rates was only 3.74% which was not statistically significant enough for there to be causation between the two variables. While Evanschitzky *et al.* (2008) stated that a price increase needs to be justified unless there is an intervention, this study goes a level deeper to say that any intervention will not necessarily cause the customer retention improvements desired as providing customers with en excess voucher in the event of a claim did not provide a big enough reduction in cancellations. This benefit was provided as it was thought to give the customer a perceived

benefit that The Insurer cared for the customer and wanted to assist them in the event of a claim which can often cost a customer a significant amount of money. The results of this study were not conclusive in creating a causal relationship between this perceived benefit and a reduced cancellation rate. This leads to further questioning as to if the right type of benefit is offered to a segmented customer grouping, would it have a greater impact on successfully reducing customer churn rates.

In a different attempt to improve customer loyalty while increasing prices, a different type of communication method was used in attempt to mitigate customer churn. Homburg *et al.,* (2005) found that if customers received justification regarding a price increase, they were more willing to accept it. The Insurers standard practice was to send customers a generic letter informing them of their annual policy review which includes a new adjusted premium for cover of the same risk items. In an attempt to further justify the price increase a second intervention was attempted in testing the second hypothesis. This type of intervention was focused on the method of communicating the price increase and creating a direct channel for justifying the increase and any concerns the customers may have had.

In this attempt, the opposite results occurred than what was intended as more policy holders cancelled than those that served in the control group. The results were not statistically significant enough to conclude that the phone call caused higher cancellations. These results challenge those of Homburg *et al.* (2005) as they were not statistically significant enough in order to concur with their findings. To coincide with Evanschitzky *et al.* (2008), communication alone does not lead to a positive reaction from customers.

In a third attempt to find an intervention that would improve customer retention while increasing prices, offering the customer a benefit and communicating the increase in a way that allows for direct clear justification were done

together in an attempt to magnify each benefit within the findings of Evanschitzky *et al.* (2008), Maxell (1999), Renner and Tyran (2004) and Homburg *et al.* (2005). By offering an additional perceived benefit and justifying the price increase together, there was a significant benefit as there was an improvement of over 24% between the exposed group and the control group. The Chi-Square test proved that there was statistical significance between this intervention and the reduction in cancellation rates of customers receiving a price increase. This further defends Evanschitzky *et al.* (2008) point that mere communication alone is not enough to create a positive reaction from customers. Maxwell (1999) affirmed that not any justification can be made but the right type of justification is needed. As merely conversing about the reasons for the increase did not improve retention rates, justifying it with an additional benefit and a conversation appeared to be the right type of justification needed. Evanschitzky *et al.* (2008) concluded that an extra offer serves as a method of justification. Within these findings, a strong sense of justification is not only to provide the customer with a perceived benefit but also communicate the increase alongside the additional benefit. By applying two different forms of justification, one as a benefit and one as reasoning, customers are more willing to accept price increases and feel in a state of equilibrium.

These findings further emphasise the importance of the policy renewal stage as stated by Hughes (2008). As the third intervention method provided insight into a method that could successfully improve customer retention while increase the price, this study adds a new level of depth to Evanschitzky *et al,* (2008) Maxell (1999), Renner and Tyran (2004) and Homburg *et al.* (2005) and provides an additional source of information in a subject area that has little penetration Homburg *et al.,* (2005).

With this additional support in the academic field of price increases and customer retention, it can be found that if there is a way to successful lessen

the impact of a price increase through the correct type of intervention, customer churn will be reduced as stated by Evanschitzky *et al.* (2008). In this case, additional focus on the customers' needs was needed as the type of intervention that worked out successfully not only gave the customer an additional offer that they perceived to be a benefit, but also communicated the benefit while justifying the increase with a more personal touch. The combination of applying these two justifications together allowed the customer to feel happy with the relationship with the insurer and continue their relationship.

This study adds depth to prior academic literature in areas such as customer equity, customer retention, and price increase strategies. Previous studies in similar areas consistently had external validity issues due to small samples or lab experiments. In this case, a successful intervention was found in a field experiment that was applied to thousands of customers in improving customer retentions while also increasing prices. As a result, the objectives that were set out in this study have been met with the successful intervention of offering an additional benefit and communicating directly with the customer in order to justify the increase significantly reduced the churn rates while giving all these customers an increase in their premium. This will lead to increased customer equity and result in improved firm value for the Insurer.

6.6   Concerns

While the study was an overarching success, a few concerns were raised throughout the research. The first concern raised was the lack of control in the sample selection. While this did not prevent the study from occurring, it did create limitations on the type of testing that as the static was sample. Ideally, a random sample of customers would have been used for all the intervention methods and MANOVA testing would have been applied. Due to

the sampling limitations, the method for statistically testing the study had to be altered.

A second concern raised was around the method for justifying the increase through the communication method of a telephone call. While this method was chosen because a consultant can engage directly with a customer and alter the conversation based on the customer's perception of the price increase, there is less consistency in how the consultant engaged with the customer as well as the skill level of each consultant. The conversation and justification is in the hands of several different call centre agents. While The Insurer assured the researchers that some of their best agents would be contacting these customers, it is difficult to guarantee every phone call received the same effort, consideration and attention.

Chapter 7: Conclusion

7.1   Introduction

With a deeper understanding of strategies that can be used to better retain customers in the insurance industry, insurers in South Africa should all take notice that treating customers in a way that prioritises them amongst all the top assets of a business pays off. In an industry that consistently fights an uphill battle in retaining customers since it is a grudge purchase, there are methods in which companies can keep their relationships strong and maintain a high level of loyalty from their customers. While the economic conditions in South Africa have many citizens feeling financial distress, it is ever direr to provide customers with the utmost care, service, and maintain an impressive relationship. By keeping customers in a state of mind where they are at equilibrium with their insurer, these companies will improve their retention rates and create more life time customers than ones continually shopping around.

The outcome of this study found that by keeping customers atop of managements' minds, interventions can be made to offset the path of an action that could trigger customer churn. By continually intervening with more customer centric approaches, insurers can continue to increase their value by increasing prices and keeping customers satisfied with what they are receiving in return. While these results occurred within the short-term insurance industry in South Africa, the same lessons can be learned in other areas of financial services, any other service industry both within the boarders of South Africa and abroad. The age of the customer is present and the best relationship a company can have is with its' customers. If they focus on keeping them happy, they are bound to grow their firm value and market share.

7.2 Findings

This study has provided an additional level of deeper insight to the academic literature specifically in the area of customer retention and price increase strategies amongst others. The results in this finding found that there was not enough evidence to prove that any form of communication can be used as justification for a price increase and successfully reduce customer churn. The outcomes from the attempt to offer an additional benefit to a customer in order to keep them feeling in a state of equilibrium after a price increase did show indications of improved retentions, the enhancement were not enough to draw a conclusion that there was a casual relation between this intervention and the reduced cancellation rate. The excitement in this research came with the third intervention method attempt.

Previous studies had found that providing justification for a price increase helps reduce retention rates and others found that offering an additional perceived benefit assists customers feel in a state of equilibrium when receiving a price increase and results in reduced customer churn. This study found that combining these efforts together had the largest impact as it improved the cancellation rates by 24.39% which was found to be statically significant at levels of 0.05. By amplifying the focus on this customer group, The Insurer received great benefit by keeping more highly valued customers on the book that had a high expectation of cancelling. As a result of applying two interventions together, The Insurer managed to retain more high valued customers, increase their customer equity for these policy holder which will increase the current and future cash flows, and ultimately increase the firm value.

These findings have proven to add depth to the academic literature in addition to providing insight into managerial implications. The Insurer should be able

to apply these lessons on a larger scale and aid them in obtaining a larger stake in their market.

7.3   Recommendations and Implications

Based on the findings within this study, the recommendations made to insurance companies, other businesses within the financial service industry and other service industries is to give a lot of focus to the customers. It is beneficial if a business understands their customer base and who makes it up. A beneficial strategy would related to segmenting customers so that an entity is aware of high value customers, customers that are more likely to lapse and if there is any overlap between these. Focused energy should be applied in keeping customers happy as it will lead to improved retentions and result in greater life time value for each of them.

While price increases are natural in the service industry due to many factors, business should consider customer centric strategies when applying these increases if they want to mitigate customer churn.   No efforts should be spared as the findings here found that communicating personally with customers in order to justify any increases while also giving them an additional benefit has a large beneficial impact on customer retention during a time of price increases. If the proper justification and optimal benefit can be provided in a cost effective manner and also be seen positively from the customer's point of view, the retention rates during the price increase should improve and have a direct impact to the revenues and profits of a company. It is highly recommended that organisations give focus to their customers' needs and give the perception that whey care and will offer more during time of price increases.

7.4 Future Research

While major benefits have been identified from this study, there are opportunities to further this investigation. Within this study the, the researcher found that future studies could alter areas regarding the sampling as well as the specific tests.

Since the researcher had limited control over the sampling method, the type of statistical testing was limited. Future studies should include the use of other sampling methods in order to enable a wider array of research design and statistical approaches such as factorial design and MANOVA testing.

Within this study, a telephone call was selected in order to justify the price increase. This placed the power of the conversation in the hands of several call centre agents. By doing so, there may have been inconsistent conversations, effort, and other intangible aspects to the communications. Future research could investigate what is the most appropriate method for communicating a message that justifies an increase in order to reduce cancellations. If there is a specific way to communicate and justify a price increase, this could further assist businesses in holding onto their customers and aid the academic literature within this area.

The type of benefit that is offered to a customer was limited within this study due to development time that The Insurer required. Future studies can further delve into different beneficial offers that can be given to customers in order to identify what type of offer is most beneficial to reduce customer churn while increasing prices. Ideally, a targeted approach should be tested in order to offer the "right benefit" to the "right customer" that fits their needs. This would require further segmentation and further investigations into the identifying the best products suited for specific customers.

Ultimately, future research could investigate the best methods for communicating the justification of a price increase while simultaneously offering a benefit that gives different customer segmentations the best perceived value in an additional offer based on what is the best offer for them.   If improved methods of justifications and best offers can be identified in unison, the next level of depth could be added to the academic literature within these fields.

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