KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

COLLEGE OF ARTS AND SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

DETERMINANTS OF THE DEMAND FOR MICRO-INSURANCE IN GHANA

BOATENG CHRISTIANA

A THESIS SUBMITTED TO THE DEPARTMENT OF ECONOMICS, KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

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DECLARATION

I, Boateng Christiana hereby declare that this thesis is my own work towards the Master of science degree in Economics and that, to the best of my knowledge, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), or material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Boateng Christiana   ………………………..   ……………………………

(PG2733314)   Signature   Date

Certified By:

Eric Oteng-Abayie, PhD   ………..……………   …………………………...

(Supervisor)   Signature   Date

Certified By:

J. B. Dramani, PhD   ………..……………   …………………………...

(Co-Supervisor)   Signature   Date

Certified By   :

Hadrat Yusif, PhD   …………………………   .………………………...

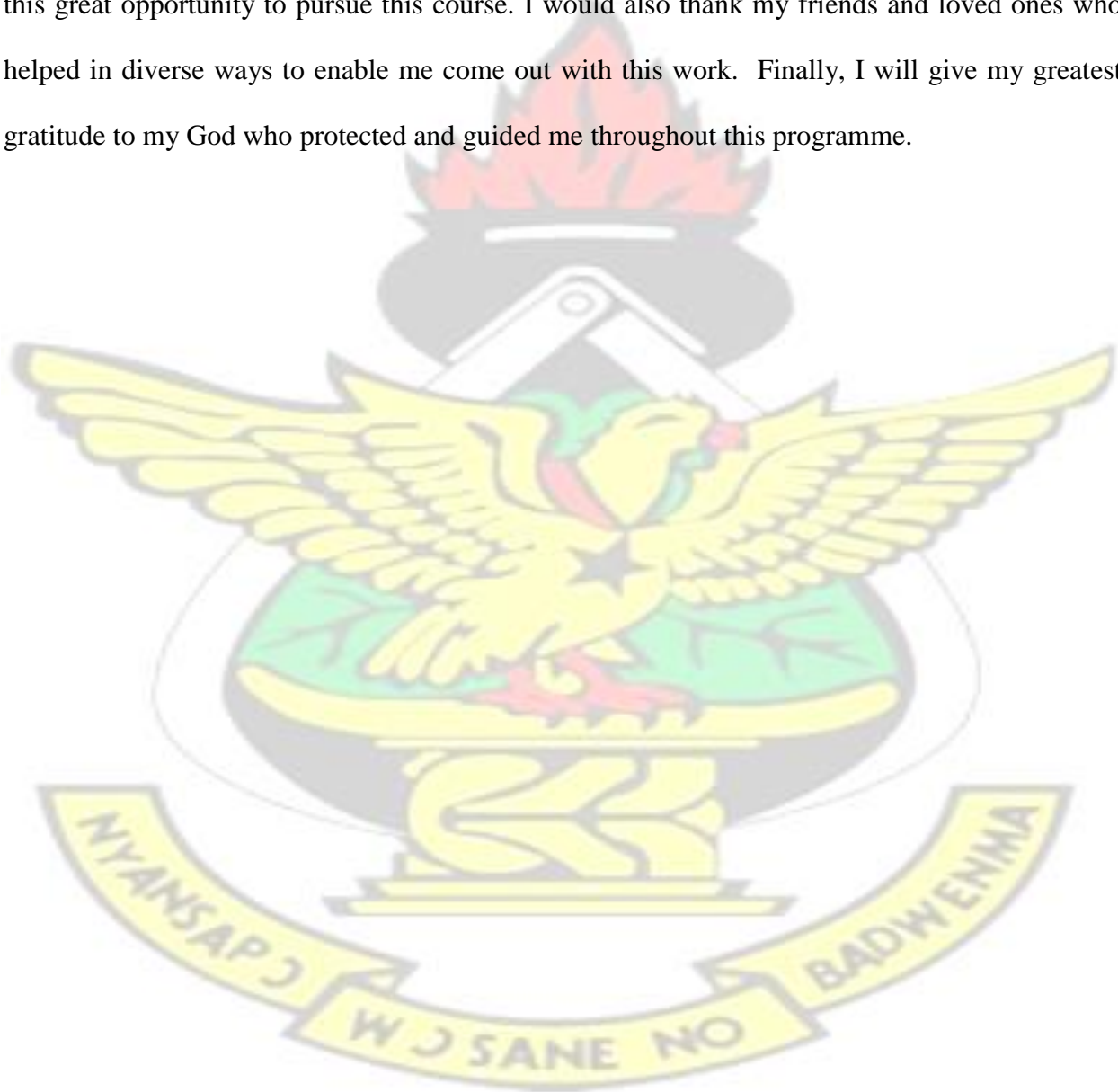**(Head of Department)**   Signature   Date

DEDICATION

I dedicate this work to my family members especially to my dear Mother, Mrs Agnes Esi Arthur and siblings for their care, love and support and to my best friend Musah Labaran who supported me throughout my education.

ACKNOWLEDGEMENTS

ABSTRACT

In Ghana, the level of demand for micro insurance, excluding the National Health Insurance Scheme, is lows (4.1%). For even the NHIS with the legal backing making subscription obligatory for all Ghanaians, only 65% are presently registered. To understand this phenomenon, the current study investigates the factors affecting the households demand for micro insurance products in the Ghana. The cross sectional survey employed multistage sampling procedure to collect data on 400 households in the Kumasi metropolis. The collected data was analysed using both descriptive and inferential analytical methods. Both the binary and multinomial logistic models were employed to determine the factors influencing households demand for micro insurance schemes. The result showed that 77% of the households are currently subscribed to various forms of micro insurance products. The micro insurance scheme predominantly patronized by the households was the health insurance scheme. The households have fair knowledge and awareness about micro insurance schemes. The households also had several perceptions about the product including high premium and bureaucratic procedure in claiming benefits. The binary logit result showed that the major determinants of households demand for micro insurance were premium, income, trust, risk aversion, financial literacy, quality, coverage and accessibility of services. The multinomial result showed that the determinants of property micro insurance relative educational micro insurance scheme include education, price, risk aversion, financial literacy, peer influence and quality of service. The determinants of health micro insurance scheme relative educational micro insurance include price, risk aversion, financial literacy, quality, coverage and accessibility of service. Based on these findings, the study recommends advertisement of micro insurance schemes, provision of quality, and making available a wider coverage and accessible micro insurance services.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Micro insurance is considered as a key financing instrument to safeguard the destitute against adversarial financial consequences in the occurrence of uncertainties. Micro insurance has the capacity to support poor households in less developed nations in managing uncertainties such as sickness, death, theft, fire, price fluctuations, economic downturn, floods and many others (Dror & Jacquier, 1999; Dercon, 2005). The destitute often are deficient of the financial acumen to withstand these risks and its subsequent shocks. Uninsured risk has welfare consequences that is far beyond consequence for short-term intake; and is a source of untiring poverty (Townsend, 1994; Dercon 2004). The incapability to mitigate these uncertainties may lessen a community"s ability to accrue, renovate and improve (Fafchamps & Lund, 2003). In contemporary periods micro insurance has been hoisted as machinery with the capability to support the destitute in reducing uncertainties. For instance, while the out-of-pocket spending on health of households presents heavy monetary distress on the destitute, society based health insurance scheme is an efficient mode to finance health care costs.

In this regard, the government of Ghana has in place a number of programmes instituted not primarily for households" access to micro insurance products, but also ensuring sustainability in financing the schemes. For instance, the government of Ghana in an attempt to providing equitable right to use, and monetary coverage for elementary household health services to Ghanaian citizens introduced the national health insurance scheme in 2003, financed through government subvention and subscribers premiums.

Notwithstanding efforts to introduce health insurance schemes is still limited, with less than 30% of the populace covered. Most of those with health insurance schemes are in urban centres. Subsequently, great figures of households in countryside settlements make payments via the „cash and carry‟ system when visiting health facilities in the events of injury or sickness. The „Cash and Carry‟ system of payment for health services impedes family‟s demand for modern health services when sick. Hence, varying researchers offer proofs on the omission of the majority of the countryside family‟s in demanding health services in incident of sickness or injury as a result of inability to pay for the services (Kida 2012; Mushi 2007; Xu, Evans & Kawabata 2003). This phenomenon is even worse with less 2% coverage for other micro insurance products like life insurance, property and educational insurance schemes.

In extending the reach of micro insurance, supply and demand elements and other elements connecting to policy and growth are important (Siegel, Always & Canagarajah, 2001). Households demand micro insurance, as a good in the marketplace, dependent on the force in the marketplace. Over and over again, family‟s choice to purchase micro insurance are influenced by elements including level of income, price of scheme, and ease of obtaining data on micro insurance, level of household members‟ involvement in health decisions, paybacks received and needs of families, making up the demand side. On the other hand, these household decisions are again reliant on the mode the subscriber and providers of scheme comprehend the product in terms of public education and trust that households have in them.

1.2 Problem of the study

Micro insurance schemes are extremely critical for the massive mainstream of low income earners. Although, it is extremely imperative for low income earners to resort to financial buffers for period of (Adamba & Owusu, 2011), the truth is that the greater percentage of the populace in less developed countries are shorn of any form of financial cushioning. In most developing countries in Africa, as low as 2.6% of the citizenry that are very poor or spend less than US$2 per day have some scheme of micro insurance (Matul et al., 2010). In Ghana, the level of demand for micro insurance, excluding the National Health Insurance Scheme (NHIS), is 4.1% country-wide (Finmark Trust, 2011). Even the NHIS with the legal backing making subscription obligatory for all Ghanaians, only 65% are presently registered with the scheme, some of which are dormant membership (Ghana Business News, 2011).

The National Health Insurance Fund (NHIF) offer one dependable mode through which poor communities manage health risks in combination with publicly financed health care services in Ghana (Tabor, 2005). The various insurance companies and some financial institutions in the country are also providing various forms of micro insurance products in attempt of safeguarding the health, properties, and the educational progress of the many Ghanaians living under US$2 per day from the catastrophe of uncertainties. It is evident that regardless of the relatively low premiums these schemes offer, demand is still low (Adamba & Owusu, 2011) and therefore total pool remains small making these schemes less viable or highly impaired. Such conditions worsen the poverty level among the destitute and limit the efforts to improve the financing of micro insurance products in the country. To understand this phenomenon, the current study investigates the factors affecting the households demand for micro insurance products in Ghana.

1.3 Objectives of the Study

The general objective of the study is to identify the determinants of household"s demand for micro insurance policies in the Kumasi metropolis in the Ashanti region of Ghana. However, the study specifically seeks to:

1. Examine the determinants of household"s demand for micro insurance products.

2. Determine the level of household"s demand for micro insurance products.

1.4 Research Questions

Based on the low level of micro insurance demand in Ghana, the current study seeks to provide answers to pertinent question such as:

1. What are the determinants of household"s demand for micro-insurance?

2. What is the level of household"s demand for micro insurance products?

1.5 Hypotheses of the Study

Based on the research objectives, the following hypotheses are validated:

H1: Higher level of financial literacy is positively related to micro insurance demand.

H2: Higher level of income is positively related to micro insurance demand.

H3: Higher price premium is positively related to micro insurance demand.

H4: High trust levels and a positive experience are positively related to micro insurance demand.

1.6 Significance of the study

The acceptability and promotion of demand for micro insurance products starts from a sound comprehension of the factors affecting registration among informal sector workers and the poor

households. With the understanding of the phenomenon deterring households from patronizing or demanding micro insurance products even under relatively lower premiums, appropriate policies can be put in place by the government and private institutions to arrest the situation. The achievement of this task could be of immense contribution to government, the households, and the various micro insurance providers in Ghana. Through appropriate policies the government of Ghana could achieve its policy of providing relatively affordable healthcare for all Ghanaians. The various micro insurance companies can also stimulate their growth and survival through increased subscription and eventually contribute to the income and employment levels of the country through a more focused approach. Furthermore, the growth of the micro insurance market invariably implies increase in the tax revenues of government from the insurance market.

Previous researches on micro insurance in Ghana and other developing countries have thoroughly econometrically analyzed socio-economic characteristics influencing households" demand for micro insurance products. However, limited consideration has been given to other factors such as accessibility, attitude of households, awareness of households, institutional factors and terms of employment, as among the factors stimulating households to demand for micro insurance schemes. An insight into the effect of these other variables on the household"s subscription to micro insurance schemes shall provide a supplementary knowledge and comprehension of household"s demand for voluntary micro insurance as well as into their choices and actions. It shall also provide an understanding on strategies for promoting households subscription to micro insurance schemes in remote areas in Ghana. The study could therefore be of immense significance to academicians by providing in-depth knowledge in the area of micro insurance demand in Ghana, and further serve as a reference literature for academicians and practitioners.

1.7 Scope of the Study

Thematically, the study focus on the level of household"s demand for micro insurance products, determine the perception of households about micro insurance products, and identify the factors influencing household"s demand for micro insurance products. The study is further limited to three major micro insurance schemes including the health insurance scheme, property and educational insurance. Geographically, the study is limited to households in the Kumasi metropolis. The households were stratified into three major income groups: low income earners, middle income earners and high income earners.

1.8 Organisation of the Study

The study was outlined in five chapters. The Chapter One of the study introduces the study by looking at the background of the study, the problem of the study, the significance of the study, the scope and limitations of the study. The second chapter of the study reviews imperative literatures related to micro insurance penetration and determinants in both developed and developing settings. The chapter three of the study describes the various methods and methodologies employed for the study. This chapter described the study design, the population, the sample size and sampling techniques, the data collection instruments, the method of data analysis and the validity and reliability of the study. The chapter four of the study however presents and discusses the result of the study. The chapter five of the study summarizes the study findings, concludes and makes imperative recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter of the study reviews related literatures in area of micro-insurance. The thematic areas reviewed by the chapter include insurance, micro-insurance, the revolution and performance of insurance in Ghana, the theoretical and conceptual frameworks. The last section of the chapter empirically reviews the factors influencing household"s demand for microinsurance products.

2.1 The Concept of Insurance

Insurance is recognized as the unbiased pull-together of the risk of bad luck, beginning with one factor then onto the following, for periodic payments called as premium (NCAER). Insurance is a type of danger administration which is utilized to spread the danger of an unexpected and unverifiable misfortune. The protection part goes about as a mobilizer of funds, a budgetary gobetween, and a promoter of venture exercises, a stabilizer of monetary markets and a danger manager.

As per the Financial Stability Seminar, Insurance administrations are ordered into three noteworthy classes: disaster protection, non-life coverage and reinsurance (Gupta & Aggarwal, 2014). The disaster protection division helps in giving danger cover, venture and assessment getting ready for people; the non-life coverage industry gives a danger spread to valuables. Under reinsurance, creating nations frequently wind up in the position of being purchasers of reinsurance (UNCTAD 1977). The life's advancement protection business sector is assuming an undeniably generous part inside of the protection business because of the presence of protection development association with the expanded offer of the protection area in the budgetary division (Beck and Webb, 2003 as referred to in Gupta & Aggarwal, 2014). There is a noteworthy undiscovered

potential in different portions of protection business sector as the Indian protection industry is very secured and underinsured as far according to capita premium and entrance. While the country is vigorously presented to characteristic fiascoes, the insurance spread to moderate the negative budgetary outcomes of these antagonistic occasions is still immature. The remote and private players can cross over any barrier and can possibly take the economy to a higher development direction. In the life coverage, open area is hoarded by the State Insurance Company (SIC). Then again, there are other minor private insurance agencies that supplement the national's endeavors insurance agency.

The upsurge of the significance of insurance internationally is apparent from expanded number of stakeholder in both residential and worldwide business sector. Ghana's always expanding extra cash, combined with the high potential interest for insurance sales, has opened numerous entryways for both household and international insurers. Information transfers, Computer programming and equipment, Housing and land and Construction are the significant parts which draws in capital inflows from outside financial specialists in different modes. The FDI can aid expand the insurance infiltration in the economy in both the country and urban Ghana and will likewise hold fast to the objective of comprehensive development. Further, FDI in the insurance segment will help to build up the life and non-life coverage market in Ghana, as the outside stakeholders have abnormal state of mastery and specialized ability to consider the reinsurance business. It likewise brings the enormous capital which can be a wellspring of outside trade holds. The stable outside cash as FDI can connect the base shortfall and different holes in the Ghanaian economy. In Ghana, the Social Security and National Insurance Trust (SSNIT) being the sole reinsurer gives gigantic chance to other private and the outside stakeholders to tap the reinsurance advertise and provide food the business sector through their reinsurance administrations.

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2.1.1 Micro-insurance

Micro-insurance is normally characterized as a financial course of action proposed to safeguard low-wage households from specific hazards in exchange for periodic payment of agreed price proportional to the prospective risk and cost of the risk included (Churchill, 2007). As this definition suggests, Micro-insurance depends on the same standards as general insurance. In spite of comparative risk scope, insurance item specifics and importance are frequently altogether distinctive between clients in normal insurance markets and the much lower wage customer base of smaller scale insurance markets. Basically cutting back general insurance items is not an effective method for drawing nearer this low-salary environment, which is the thing that some first-movers in the commercial center did. It is much more successful, as affirmed by both specialists and scholastics, to plan particular items for this business sector in light of a profound comprehension of small scale insurance markets and the specific needs of potential clients in these business sectors (Churchill, 2007; Dror et al., 2007). Micro insurers endorse an extensive variety of dangers, including most lines of customary insurance. The relative significance of these items is, be that as it may, entirely diverse in miniaturized scale insurance markets. We additionally locate an enormous hole between the interest and supply sides of this business sector. Demise and disease are the most often distinguished dangers for which individuals request scope (Cohen & Sebstad, 2005). The effect of health risk on monetary action is particularly serious and a noteworthy purpose behind persevering neediness in creating nations (Asfaw & Jütting, 2007). Horticultural and fiasco scope are the most essential non-disaster protection items in this business sector.

This is not astounding given that agribusiness is the establishment of the best measure of financial movement in most undeveloped nations (Mills, 2005; Levin & Reinhard, 2007) and that dangers bringing about high rural misfortunes contribute an awesome arrangement to the issue of tenacious destitution in undeveloped nations (Linnerooth-Bayer et al., 2009). Be that as it may, despite the fact that the purchase of life, health, and agrarian insurance items is high, the supply side faces a few limitations, representing the little size of the business sector. Total measurements demonstrate that health insurance specifically assumes a minor part in micro insurance advertises and is accessible for just give or take 3 for each penny of the populace in the poorest nations (Roth et al., 2007). Extra security, then again, is a great deal all the more broadly accessible. In general, 40 for every penny of the aggregate strategies in small scale protection are identified with extra security, just 20 for each penny each to wellbeing, handicap, and property protection (Roth et al., 2007). The high rate for life coverage is basically determined by credit life coverage arrangements, which are frequently sold as a group with microcredit items.

Linnerooth–Bayer et al. (2006) opined that small scale insurance can break the cycle of neediness" by giving low-salary family units, business and ranchers with access to post fiasco liquidity, along these lines ensure their occupations and accommodating remaking. Along these lines, safeguarded family units and firms are more credit commendable; these sorts of protection can likewise advance interests in beneficial resources and higher danger yield crops. They underscore that smaller scale protection can empower interest in calamity aversion, if back up plans offer lower premiums to remunerate danger decreasing practices. Subsequently, ostensibly, miniaturized scale protection can be seen as successful danger - exchange system and basic piece of general catastrophe hazard administration technique. Extending and Ahuja (2003) watched that small scale protection is considered to assume essential part of financing device to shield poor from unfriendly

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monetary result in the occasion of ailments or sick wellbeing. Devaux (2000) noticed that smaller scale protection empowers credit and investment funds to be utilized all the more beneficially on producing work opportunities. Churchill (2007) saw that neediness is only a condition of hardship yet has ability powerlessness miniaturized scale protection ought to consequently, give more noteworthy monetary and mental security to the poor as it diminishes introduction to numerous dangers and pads the effect of a catastrophe. There is a staggering interest for social security among poor people, smaller scale protection in conjunction with miniaturized scale sparing and smaller scale credit could, along these lines go far in keeping this portion far from the destitution trap and would really be a vital segment of money related incorporation.

2.1.2 Ghana's insurance sector's growth challenges

At a glance worth, the expansion of microinsurance agencies in Ghana offers more open doors for provident people and teams to contribute cash to different plans towards an arranged and secured future. Certainty, then again, is that dissimilar to its saving money part, which recently recorded an aggregate resources base of GH¢ 22.4 billion, the microinsurance segment still endures recognition and different emergencies that keep on hampering the satisfaction of its enormous possibilities (Owusu, 2007). Regardless of chances offered by more vigorous rivalry in the part and developing vicinity in life and non-life reinsurance, the microinsurance business keeps on encountering hindered development (Morsink & Geurts, 2011). Low support, restricted information, and absence of certainty are a variables' portion that smother the business' development (Owusu, 2007). One could likewise include different difficulties like feeble administrative structure representing protection practice, delays in case installments, false claims and value undermining.

In addition, stress with regard to the act of cost undermining with respect to a few markets to make horrible rivalry has expanded the danger in the business. The National Insurance Commission (NIC), it must be said, has taken a strict position on this matter and had debilitated to direct an uncommon review to uncover insurance agencies occupied with premium undermining as the unfortunate practice terribly influence their capacity to pay claims (Ackah & Owusu, 2012). Optimistically, the National Insurance Commission is engaged by the new Insurance Act 2006, Act 724 to check the irregularity. The Act makes avenue for general nearby review, permitting and proper approvals against defaulting organizations. Industry regulators further propose that the area needs to genuinely consider preparing specialists in microinsurance in a manner that the terms and conditions in strategy archives would be all around clarified with the goal customers should settle on educated choices. This, they say, would guarantee straightforwardness in the exercises of insurance agencies and cause trust in customers.

Another distinguished obstacle is the delays in acquiring benefits. Without a doubt, a few claims are deceitfully made and a study made by the International Insurance Associations puts the level of distinguished and suspected extortion in microinsurance claims between 5% and 10% per day. In reality, utilizing a claims expense figure of 100,000 for per work day, specialists say the nation experiences an extortion expense of between GH¢ 5,000 and GH¢ 10,000 a day (Ackah & Owusu, 2012). However, while it is important to subject petitioners to legitimate archive confirmation and questions to brace down on such false claims, over the top or pointless long bureaucratic techniques and bottlenecks should be disheartened amid claims installments. Government and private area support can guarantee simple access to dependable insights that would empower

microinsurance agencies to outline exhaustive arrangements to address the issues of imminent customer

Step by step instructions to oversee risk adequately has turned into a need for microinsurance agencies as the size of recurrence of fiasco and different instabilities ascend with the progression of time. Meeting future claims installments and commitments remain a mind-boggling assignment that insurers break even with consideration, as is dealing with the notoriety of microinsurance elements to restore purchaser and administrative certainty. All the more essentially, the market's penetration by microinsurance agencies would maybe develop with the National's sanctioning Pensions Act, 2008 (ACT 766) into law, with its compulsory three-level contributory benefits plan (Ackah & Owusu, 2012). The fundamental goal of the three-level plan is to accommodate annuity advantages that will guarantee retirement wage security for the labourer (Ackah & Owusu, 2012). The main reason for the national government managed savings plan, which joins enhanced Social Security and National Insurance Trust (SSNIT) advantages, is required for all workers including both the private and open divisions. The second level word related annuity plan, which is obligatory for all workers however overseen secretly, has been molded to give higher knot total advantages for givers that are higher than that made accessible either by SSNIT or under the CAP 30. Concerning the third, it is an intentional provident trust and individual annuity plan, which is upheld by tax break motivators for labourers in the formal segment who need to make deliberate commitments to upgrade their benefits advantages and for specialists in the casual part. The business will make a month to month commitment of 13 for every penny of a laborer's pay whilst the specialist will make a commitment of five-and-a-half per penny making it a sum of 18-and-a-half per penny of laborers pay as obligatory commitment towards the annuity. Out of the aggregate commitment of 18-andhalf per penny, the boss will transmit 13 and half percent to the first level

compulsory fundamental national security plan and five percent to the obligatory second level word related benefits plan. Commitments made to the third willful level have no settled level, as the commitments would rely on upon the singular's capacity to pay. Insurance agencies would particularly be occupied with the prospects that both the second and third levels make accessible in the business sector and they are required to take advantage of such open door. In the event that Ghanaian laborers are to advantage hugely from protection items, particularly at annuity when they may think that it"s hard to cook for themselves and their wards, there is then the need to uproot certain hindrances to the business' development in the nation to give it a facelift.

2.2 Theoretical Framework

Several economic theories are available to expatiate on the choices of households. The current study however is built on the Expected Utility (EU) Theory due to its suitability in explaining the demand of households for micro insurance products. The Expected Utility (EU) Theory assumes that people are risk averse and make choices between taking a risk that has different implications on wealth and hence its preference over other related theories like the State-Dependent Theory, the Consumer Theory and the Endowment Effect Theory.

The consumer theory for instance perceives that consumers who are fully well-versed optimize their utility as a function of purchasing numerous goods, considering comparative prices, level of income and choices. Per the study of Begg et al. (2002), "variation in income and prices affect the degree of purchase of goods by rational consumers." The researchers further retorted that "micro health insurance schemes are anticipated to be a ordinary good with a positive income elasticity of demand, suggesting that households have lower probability of purchasing micro insurance,

considering a lesser premium". The researcher also indicated that "increase in price of an alternate for insurance such as user fees is anticipated to increase the micro insurance purchase, as is a dwindling in micro insurance price". In the opinion of the investigators, purchasers" response to the premium alterations relies on their socio-economic position since the rich, specifically, are expected to be unresponsive to premium alterations, on condition that they are further receiving worthy health-care they anticipate at that excessive premium. Grounded on these lapses, the current study relies on the expected utility theory.

2.2.1 Expected Utility (EU) Model

Considering the expected utility model, micro insurance demand is a choice between an indeterminate risk that happens with likelihood when unsubscribed, and a defined loss like paying a price (Manning & Marquis, 1996). The model perceives that households are not risk lovers and so pick among carrying a risk that has varying effect on income. Given the period of micro insurance selection, purchasers are unclear whether about their health status, and of the associated monetary effects. Micro insurance decreases this undefined risk. Further expatiating this, Hsiao et al. (2006) reported that "the rural residents desire to subscribe or not subscribe to community-based health insurance scheme (CBHI) is a discrete choice procedure in line with explanatory choice theory" and that the households decision of purchasing a CBHI in rural China was reliant on the evaluation of the expected utility of purchasing health micro insurance against not purchasing. Notwithstanding these disparagements, expected utility is usually employed in theories of decision making with regard safeguarding against risk (Marquis & Holmer, 1996).

2.3 Conceptual Framework for the study

The current study grounded on the expected utility theory. Based on this theory, a household unit demands a micro insurance product when the expected utility for insurance is greater than the utility of uninsurers. Households are assumed to make micro insurance demand decisions based on the objective of utility maximization (Adesina & Seidi, 1995; Adesina, 1996). A household therefore would subscribe or demand a given micro insurance product if the utility obtained from the product exceeds that of not subscribing or demanding the products. The factors considered by this study to determine the basket of the expected utility of the households making the subscription or the demand choice include socio-demographic factors, economic factors, Social and Cultural factors and structural or institutional factors. The developed conceptual framework is graphically shown in Figure 2.1.

Figure 2.1: Conceptual Framework
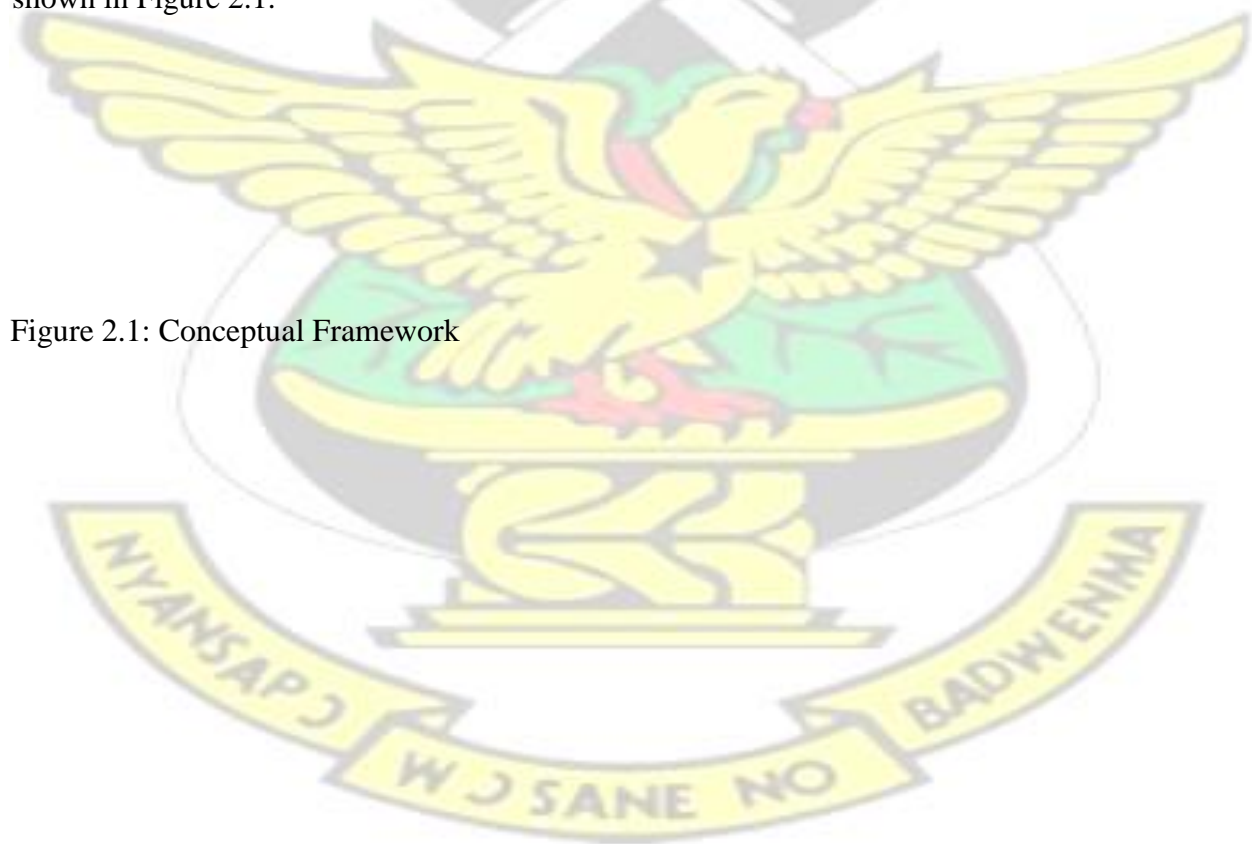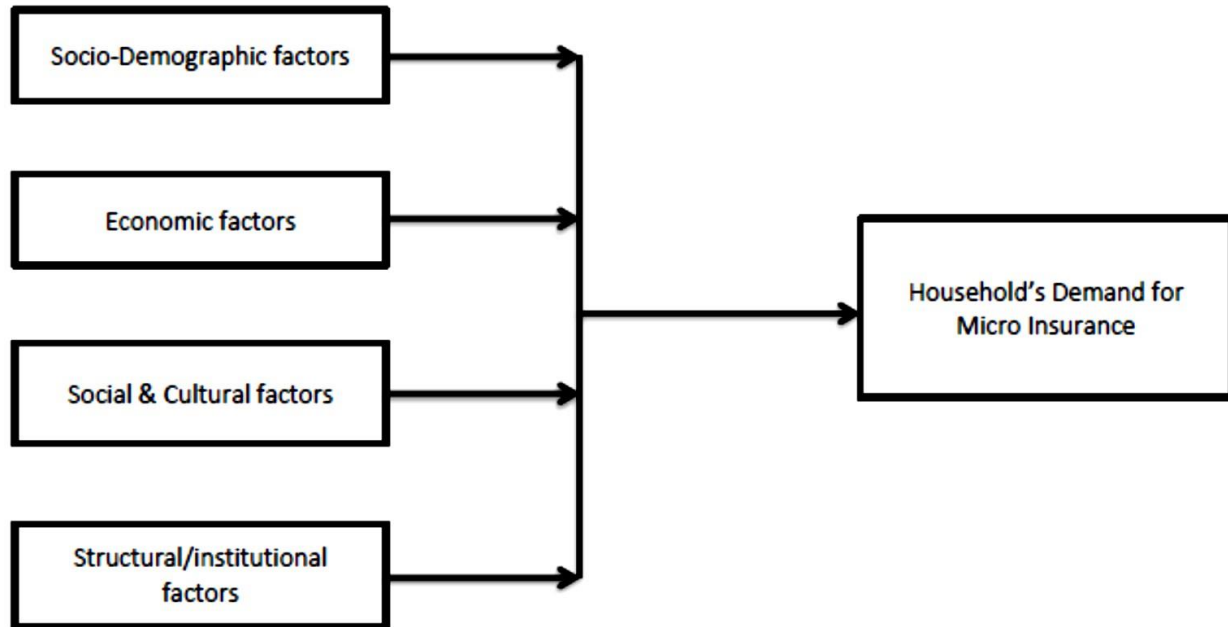
Source: Marquis and Holmer (1996:23)

2.4 Factors influencing Household's Demand for Micro-insurance

Based on this, the majority of the reviewed literatures is in the context of middle income or developed countries. Based on the conceptual framework of the current study, the volume of literature on the demand for micro insurance policies have been reviewed under four major categorical factors including socio demographic factors, economic factors, socio-cultural factors, and structural/institutional factors. The included factors were reliant on the results of the research of Eling, Pradhan and Schmit (2013) that reviewed studies on the factors affecting the demand for micro insurance picked out twelve critical elements influencing micro insurance purchase including gender, age, risk exposure, quality of service, informal risk sharing, financial literacy, religion, trust and peer effects, non-performance risk, risk aversion, wealth and price.

2.4.1 Socio Demographic Factors

The household‟s key socio demographic factors reviewed in terms of their influence on micro insurance products included age, education, religion, gender, occupation or employment, dependency ratio/Household size, and financial literacy.

2.4.1.1 Age

The findings of the micro-insurance studies reviewed to present with regard to age have been vague (Eling et al., 2013). Certain research reveal positive relationship between age and micro insurance purchase (Cao and Zhang, 2011; Chen et al., 2013); some also reveals negative relationship (Gine et al., 2008) or provide insignificant result (Cole et al., 2013). For the samples from Ghana, consistently a positive influence of age and negative for age squared is found which is interpreted as life-cycle effect in the purchase of life insurance (Bendig et al., 2011; Giesbert, 2010; Giesbert et al., 2011). In Sri Lanka, age is negatively related to the demand for micro life insurance products (Bendig & Arun, 2011). The studies of Chankova et al. (2008) and Ito and Kono (2010) found positive relationship between household‟s demand for micro health insurance products and age.

2.4.1.2 Gender

Risk behaviour of females has been confusing to academicians a longer span of research period. The greater, though surely not wholly, studies on the subject seems to indicate lesser risk acceptance among females than their male counterparts, even yet the reason is vague either hypothetically or practically (Cohen Einav, 2007). The study of the authors reviewed showed positive association between household‟s gender and the purchase of micro insurance schemes.

Giesbert (2010) in a research reported positive influence of micro life insurance on household‟s gender. Furthermore, the study of Schneider and Diop (2001) also revealed positive relationship between micro health insurance and the gender of the household. In a Ghanaian context, Nketiah (2009) suggested that access to health insurance is vital particularly to women in the fertility age; as they are obliged to meet their health requirements and those of their offspring. The study further hypothesized that this sort of intuition is embodied in the Millennium Development Goals 4 and 5 that resound round the health of kids and women. The study in this context contends that responsibility for micro insurance for women has the capability of decrease in the mortality of kids and women.

2.4.1.3 Employment/Occupation

The employment of the insured is liable to a few extra microinsurance demand researches. In their initial study, Hammond et al. (1967) suggest a positive relationship of working in a cushy environment with family's demand for life microinsurance. This outcome is bolstered by consequent researches (Duker, 1969; Auerbach & Kotlikoff, 1989). On a macroeconomic level, Mantis and Farmer (1968) report a positive relationship between occupation status and the demand for life insurance. Relatively recent studies such as Giesbert (2010) and Chankova et al.

(2008) report positive relationship between household‟s demand for micro insurance products and their employment status or the type of occupation. This result implies that the employed are more likely to purchase micro insurance products compare to the unemployed. This could be attributed to their financial capacity to do so. However, Bendig et al. (2010) found negative relationship between household‟s demand for micro health insurance products and employment status.

2.4.1.4 Education

Education should have an expanding impact on the time of dependency, which may build the interest for mortality scope. A greater level of education is thought to be emphatically associated with the purchase of microinsurance products, as it may raise the capacity of households to comprehend the advantages of risk administration and savings, however increase individual"s risk aversion attitude (Beck & Webb, 2002). A regularly distinguished obstacle in offering microinsurance to poor family units in underdeveloped nations is an absence of comprehension of microinsurance products and the distinctions in their psychological capacity to see such items (McCord 2001). Further, more taught family units will probably take up protection (Chankova et al., 2008; Giné et al., 2008). Consequently, it is perceived that relatively formally educated family heads have greater probability of to comprehend such a product more easily, and be more likely to participate in that kind of micro insurance product relative to lesser formally educated. In the instance of health micro insurance, the destitute might rarely comprehend the notion completely, nonetheless the medical information of the less educated is also rare, and it is challenging for them to understand what is and is not covered under the policy (Chankova et al., 2008; Ito & Kono, 2010). Bendig et al. (2010), Giesbert et al. (2011) and Bendig and Arun

(2011) in their study also found positive relationship between household"s demand for micro life insurance products and their educational level.

2.4.1.5 Dependency ratio/Household size

Considering the hypothetical literature of Lewis (1989), it is accept that the current estimation of the recipients' utilization might surge with the young dependents of the family unit, while a greater number of youthful dependents increase the demand for mortality scope and a higher number of

aged dependents surge the purchase of microinsurance schemes. On the off chance that the family units esteem inheritance thought processes, we expect that family unit's small scale insurance investment surge with the quantity of dependents, particularly youthful dependents, and the conjugal position "being hitched" because of proposed endowment intentions utilizing a "delight of-giving" rationale (Hurd, 1987; Hurd, 1994; Inkmann & Michaelides, 2010). Browne and Kim (1993) also suggest that household size and life insurance are positively correlated. A study by Dror et al. in 2007 also reported as the key significant determinant of household"s readiness to purchase health micro insurance as the size of the household, hence the families desire to purchase micro-insurance is not meant to cover only the key source of income, but include the entire family. Bendig and Arun (2011) and Giesbert (2010) in their studies found positive relationship between the demand for micro-life insurance products and household size or the number of dependents. Schneider and Diop (2001) in their study found positive association between households demand for health micro-insurance products and the household size or the number of dependents.

Contrary to many studies, Ito and Kono (2010) found negative association between the demand for micro health micro-insurance products and household size or the number of dependents, since family units with greater percentage of ill-fated memberships have greater probability of subscribing to health micro-insurance schemes.

2.4.2 Economic Factors

This section of the chapter reviews empirical literatures on household‟s demand for microinsurance products and economic factors. The major economic factors considered in the review were the price of micro insurance products, wealth and income of households.

2.4.2.1 Price of Insurance

As per standard economic concept, the fee of a good that is normal is required to be contrariwise linked to demand for goods. Numerous research estimate price sensitivity of Micro-insurance by randomizing markdown coupons or subventions. A research in India suggested that rainfall insurance demand is sensitive to price (Cole et al., 2013) like many other studies in different settings. Mobarak and Rosenzweig (2012) in their study reported that a 50% premium fall comparative to the actuarial fee leads to the upsurge of the likelihood of household‟s adoption of the product by 17.6%. Similarly Dercon et al. (2012) reported that reduction of a unit premium result to critical influence on health micro-insurance purchase, with twenty percent reduction coupons resulting to a twelve percent surge in likelihood of purchase, producing 0.6 units premium elasticity. Greatest of the research on micro insurance subscription employ premiums, in one procedure or the other, as the „premium‟ variable however, in the „actual realm‟, there are alternative business outlays to purchase micro insurance. Thornton et al. (2010) reported outlay of time and effect as a significant motive for deciding not to enroll in health micro-insurance, irrespective of the reduced premium. Cole et al. (2013) reported that irrespective of premium been meaningfully lesser than actuarially reasonable premium; lesser than half of consumers subscribe to rainfall micro-insurance schemes. Certain studies indicate that inadequacy of subscription of micro insurance is related to inadequacy of micro insurance experience. Thornton et al. (2010),

Fitzpatrick et al. (2011), Bauchet (2013) all reported rates of retention fall meaningfully following cessation of subventions, successively inversely to the concept that acquaintance could enhance study outcomes.

2.4.2.2 Income

Considering the household"s income level, life micro insurance subscription might rise, as human resource rise with a greater level of wealth, i.e. generates a greater need for death coverage to reserve wealth and the purchasing ability of family heads and dependents. Browne and Kim (1993), Truett and Truett (1990), Lewis (1989), and Outreville (1996) reported that life micro insurance purchase is positively associated with income employing each families information both in developing and developed nations setting. Outside life micro insurance (Giné et al., 2008) and particularly health micro-insurance (Jütting, 2003; Pauly, 2004; Bhat & Jain, 2006; Dror et al., 2007), households in developing countries aare relatively likely to purchase micro insurance when income increases.

2.4.3 Social and Cultural Factors

The relationship between key socio-cultural factors of household"s and their demand for micro insurance products are discussed in this section of the study. The major socio-cultural factors reviewed included risk aversion, and trust of the household.

2.4.3.1 Risk Aversion

Considering less developed nations, there is suggestion that risk averse individuals have lower probability of subscribing to micro-insurance (Giné et al., 2008), then that families that perceive

themselves relatively highly availed to dangers have lower probability to purchase micro insurance schemes like life micro-insurance (Bendig et al., 2009). In this regard, it could be the reason that families highly exposed to risk, i.e. the families that perceive themselves greatly availed to danger, possess a lesser access to insurance. Through structural adjustment philosophers the destitute are expected to be the highly risk averse (Ray 1999). Cole et al. (2013), Kouame and Komenan (2012) and Giesbert et al. (2011) reported that individuals that are relatively more risk-averse have greater probability of purchasing micro insurance schemes. Numerous potentials have been projected to elucidate this unswerving reflection that persons that are risk averse and micro-insurance subscription are inversely linked. Dercon et al. (2011) reported variation in risk behaviour athwart the two spheres; however rarely see those behaviours to be important in respect to micro-insurance subscription.

2.4.3.2 Trust

Trust is a mitigating factor and its importance for micro insurance participation is suggested (Dercon, 2008; Schneider, 2005; Basaza et al., 2008; Patt et al., 2009). Among services offered by microfinance providers, insurance needs the highest degrees of trust on customer side. Trust, however, is a vague concept and cannot be easily tested for. Various quantitative studies tried to control for this influence. Cole et al. (2008), for example, used the endorsement by a well-known party as a proxy. Studying a sow insurance product offered by the government in China, Cai et al. (2010) used the participation in another health insurance provided by the government and the previous reliable reception of government subsidies as proxies for trust and found both to have a significant positive impact. In an experimental design in Kenya, Dercon et al. (2011) could show that persons who were more trustful in a classical sender-receiver trust game, in which the receiver was always the field staff of the participating MFI, were also more likely to take-up insurance.

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Gine et al. (2008) in their study in India reported that higher level of trust of micro insurance service providers is significantly associated with micro insurance subscription. Similarly, Cole et al. (2013) also reported positive relationship between Indian households and full trust for micro insurance service providers. Morsink and Geurts (2011) report that customers of a Typhoon associated micro-insurance programme in the Philippines depend on the claim disbursement practices of trustworthy peers. In Ghana context, the study of Akotey et al. (2011) revealed positive relationship between the household"s perceptions of MFI/Insurer and the household"s demand for micro insurance products.

2.4.3.3 Religion

Religion is theorized to be associated with life insurance demand for two reasons: firstly, historic development of life insurance was often in conflict with religious views and for some time condemned as distrust in God"s protective care; secondly, a society"s culture is said to be influenced by religious beliefs and related to levels of risk aversion (Douglas & Wildavsky, 1982). On a household level, Burnett and Palmer (1984) investigated the relationship between religion salience and life insurance consumption a middle-sized US city. The respondents who indicated a high importance of religion owned considerably less life insurance than people who claimed a low interest in religion. Macroeconomic studies have found that the demand for life insurance is significantly less widespread in predominantly Muslim countries – like Indonesia (Browne & Kim, 1993). Yet, this might not be evidence for higher religious salience or risk aversion in Islamic imprinted societies but rather a result of constrained life insurance supply.

For a believing Muslim the regular life insurance contract is not a viable option due to Islamic regulations (Redzuan et al., 2009).

2.4.3.4 Financial literacy

The household‟s literacy in finance is anticipated to cause micro-insurance subscription increase. A frequently measurement method employed is a structured forms of queries designed by Lusardi and Mitchell (2006) that examines the comprehension of simple financial ideas such as risk diversification, inflation and interest rate compounding. Cole et al. (2013) reported that households with higher level of financial literacy have higher level of purchasing micro insurance schemes. This result is similarly to the finding of Cai and Song (2011) and Norton et al. (2011) who also reported positive relationship between financial literacy and households purchase of micro insurance products.

Gine et al. (2008) reported that the inadequacy of micro insurance scheme comprehension is rated as the second highest factor for the lower subscription of households to micro insurance schemes. Field experiments in India and Indonesia suggest that a positive liquidity shock at the time an insurance product is offered or the subsidization of financial services have a positive effect on participation (Cole et al., 2008; Cole et al., 2010). The studies of Cole et al. (2008) and Gaurav et al. (2011) also found positive relationship between the household‟s demand for micro insurance products and financial literacy. Dissimilar to household‟s literacy in finance, the educational level of households was found to significantly influence micro insurance purchase.

Whereas household‟s educational level has been employed as a deputation to household‟s literacy in finance in the absence of appropriate measure, the concept are dissimilar (Lusardi & Mitchell, 2006).

2.4.4 Structural/institutional Factors

The influences of structural or institutional factors on household"s demand for micro insurance products are reviewed in this section of the chapter. The major structural or institutional factors reviewed included the quality of the services provided by insurers and risk exposure.

2.4.4.1 Quality of service

De Allegre et al. (2006) reported that the quality of health center service in remote West Africa is significantly associated with the choice to subscribe to community-based micro insurance. Dong et al. (2009) note that along with health requirements and micro health service subscription, quality of service is a significant element in micro-insurance non-subscription. Likewise, Nguyen and Knowles (2010) reported that the subscription to health micro-insurance in Vietnam upsurges meaningfully with the anticipated paybacks of micro-insurance as evaluated by quality of provided services and the distance of the household from the available service.

2.4.4.2 Risk exposure

Numerous researchers have researched into how exposure to risk, principally the influence of previous experiences of dangers or risk, influences household"s subscription to micro insurance. Arun et al. (2012) in a research carried out in Sri Lanka reported solid proof of a strong positive association between shocks in the past and the household"s subscription to micro insurance products. However, the studies of Galarza and Carter (2010) and Cole et al. (2013) reported no relationship between the constructs.

2.5 Empirical studies on the demand for micro insurance

Empirical contributions examining the choice to take-up micro insurance are presently expanding. The enormous of this proof demonstrates that, for sure, interest patterns in different micro insurance markets are not so much steady with the benchmark of standard "risk pool" models. This segment highlights a portion of the studies, which go past the primary standard hypothetical assumptions.

Amenyedor (2013) in a study to research the taxi's ability to take up taxi micro insurance in Ghana utilized both descriptive and inferential strategies. The study utilized the probit model to examine the relationship between non-customary components and willingness to take up taxi micro insurance. The study revealed premium adaptability, income, cost of related products and desire of future value changes as conventional micro insurance demand elements are emphatically identified with the willingness to demand taxi micro insurance in Ghana. Besides, incite claim installment, advantages when no misfortune happens, aggregators and marked custom-made items were each distinguished as non-customary components which are emphatically identified with the demand for micro insurance in Ghana.

In the Tobit Model of Brück, Steiner and Terberger (2013) to investigate micro insurance and uncertainty management in Ghana uncovered that family uptake of micro life coverage does not by any stretch of the imagination take after the forecasts made by standard protection speculations. Informal trust-building components and subjective uncertainty discernments end up playing a vital part in the setting of data asymmetries and constrained involvement with formal protection. Besides, there is a commonly fortifying relationship between micro life insurance and other formal

money related administrations accessible in the rural and semi-urban study ranges in Ghana. In the meantime, small scale protection does not substitute informal financial products.

Huber (2012) in his study of the determinants of Micro Life Scheme demand in Indonesia collated data on 208 microfinance customers through personally-administered questionnaires in the urban and semi-urban area of Jakarta. The study employed both descriptive tools and the Binary Probit Model. The result based on marginal effects probit regression analysis, support earlier findings regarding the positive influence of education and household wealth on life insurance uptake. In addition, economic capacity measurements deemed more appropriate for low-income households are introduced and corroborate an unambiguous strong positive influence of households" relative economic capacity. Further, positive influence is found for respondents" financial literacy and product understanding as well as client trust attitude and brand recognition. A strong negative life-cycle effect is revealed when taking into account economic self-sufficiency of dependents.

Saqware (2012) analyzed data from a primary survey and focus group discussion derived from informal sector household members of the VIBINDO society in three locales of Ilala, Kinondoni and Temeke in Dares Salaam. The investigation includes three stages; to begin with, family's significant risk exposures were examined, also hazard adapting methods which were set up were analyzed and thirdly, a probit regression examination was ran to build up the relationship between families' characteristics and the demand for informal micro insurance product. The aftereffect of the study initially showed that employment, marital status, utilization of the services of MFIs, education, exposure to risk and knowledge about micro insurance are critical determinants of micro insurance products. Knowledge about micro insurance and trust of providers of micro

insurance products were found to have a positive and noteworthy effect on the demand for micro insurance products. As opposed to expectations, the empirical investigation demonstrates that income is a noteworthy determinant with a negative effect on the demand for micro insurance scheme. The outcome of the study further showed that previous casual sharing systems influence interest for micro insurance products. The low demand for micro insurance scheme can be clarified by accessible information plans that are portrayed by nearly weave informal organizations (social networks) and groups that give security in return for loyalty to the group. Likewise, vulnerability evasion society is low inside of the families in Tanzania; consequently family units appear to more endure diverse circumstances.

Gustina & Irwani Abdullah (2012) in a study to investigate the major factors that affect the demand for household takaful and comparing with its conventional counterpart employed relevant data from Bank Negara Malaysia and Department of Statistics Malaysia for the period of 1990-2009. The collated data was analyzed using multiple regressions model. The result of the study showed that four factors including GDP per capita, education, saving and religion significant influences the demand for household takaful. Furthermore, three factors such as GDP per capita, saving and religion affected the demand for life insurance. This study also found that two variables including customer price index and saving negatively affected the demand for family takaful. Meanwhile, age, saving and religion are the three major variables found to negatively affect life insurance demand.

Dror et al. (2007) study families' eagerness to pay, examining information from a game bidding carried out in more than three thousand family units in India. The researchers reported a larger amount of ostensible ability to pay contrasted with past concentrates; further, they demonstrate

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that family wage and ostensible readiness to pay are absolutely connected, while family unit pay and eagerness to pay as a rate of family unit pay is adversely corresponded. Further, their outcomes recommend that family unit size is the most critical determinant of eagerness to pay levels.

Giné et al. (2008), trailed by Cole et al. (2013), demonstrate that Indian ranchers' interest in rainfal micro-insurance coordinates a standard's percentage forecasts of a model increased with borrowing limitations. Micro insurance uptake diminishes with expected salary vacillations, the credit requirements confronted by a family unit, and premise hazard – that is, the jumble between the file and the genuine expected misfortunes secured by the micro insurance scheme. It upsurges with family unit riches. In opposition to the standard protection speculations, on the other hand, the researchers observe that risk averse family units are essentially more averse to take up micro insurance schemes, proposing that families that are new to the item and supplier perspective buying protection as an unsafe attempt instead of a choice for security. Additionally, utilizing measures of danger inclinations and trusting conduct from lab tests among tea cultivators in Kenya, Dercon et al. (2011) affirm the negative impact of hazard avoidance on a composite medical coverage item. They demonstrate that this impact is clarified to a great extent by the customers' general trusting conduct, which decides the subjective convictions about the backup plan's validity and the protection's enforceability agreement.

The level of trust between the micro-insurance supplier and a potential customer has been revealed to be an intense logical element in micro-insurance uptake attitude by various different studies too (De Allegri et al. 2005; Cole et al. 2013; Giné et al. 2008; Morsink and Geurts, 2011).

For instance, in the instance of an administration sponsored sow micro insurance, Cai et al. (2009) demonstrate that Chinese agriculturists stay away from the product when they have little trust in the neighborhood government because of continuous encounters of approach conveyance disappointments. Comparative proof on the part of trust in administrative establishments is found on account of group based medical coverage in Rwanda (Schneider, 2004). Research on yield micro-insurance have demonstrated that involvement with the foundation is essential for agriculturists to believe a protection supplier (Giné et al. 2008; Patt et al. 2009)

Identified with the issue of trust, different variables that are currently progressively considered in experimental studies are those of awareness and the impact of social associates (De Bock & Gelade 2012). Tower and McGuiness (2012) demonstrate that a radio micro-insurance in Kenya altogether expanded learning on protection terms and items. Morsink and Geurts (2011) find that customers of storm small scale protection in the Philippines depend on the encounters of case payouts by trusted associates as casual trust-building components that substitute for formal trustbuilding organizations, in this way attempting to lessen the danger of astute conduct with respect to the guarantor in the protection exchanges. By the utilization of randomized control trials, studies have demonstrated that individuals will probably take up sow protection, when they found out about it in a town meeting, instead of through way to-entryway visits (Cai et al., 2009); that advertising through town feeling pioneers had a constructive outcome on uptake of product protection (Giné et al. 2008); and that transmission of data on protection was contorted by means of systems and brought about negative impacts on uptake of medical coverage (Olapade and Froelich 2012).

The reviewed literatures were predominantly from the developing world due to the setting of the current study. The studies predominantly are centered on one micro insurance product and hence

the reliance on the binary probit model to examine the uptake of micro insurance products by households. Except for the study of Gustina and Irwani Abdullah (2012) that employed additional information from the department of statistics of Malaysia, the rest of the examined studies relied on primary data collated on households demand for micro insurance schemes. The expanse of variables employed by the reviewed studies as potential explanatory constructs of household"s demand for micro insurance products include income, premium, education, financial literacy, trust, cost of related products, exposure to risk and the knowledge and awareness of households about micro insurance products in addition to socio demographic characteristic such as marital status, employment status, religion, age, and household size. Of these variables, income, education, trust, and marital status were the most employed explanatory variables by the reviewed literatures. Though the Tobit Model was adopted by Brück, Steiner and Terberger (2013), the majority of the studies relied on the probit model as their inferential analytical tool in examining the factors influencing households demand for micro insurance schemes. The review of empirical contributions shows that the increasing body of literature on micro insurance participation has a strong focus on the analysis of health insurance and life micro insurance neglecting other schemes like property and education and hence the desire of the current to examine the adoption of these two products in addition to health employing the multinomial logistic regression model. Furthermore, most of the reviewed studies collated data primarily from lower income communities and so barely could compare the adoption or the subscription levels of the various income groupings and hence the interest of the current study to do so.
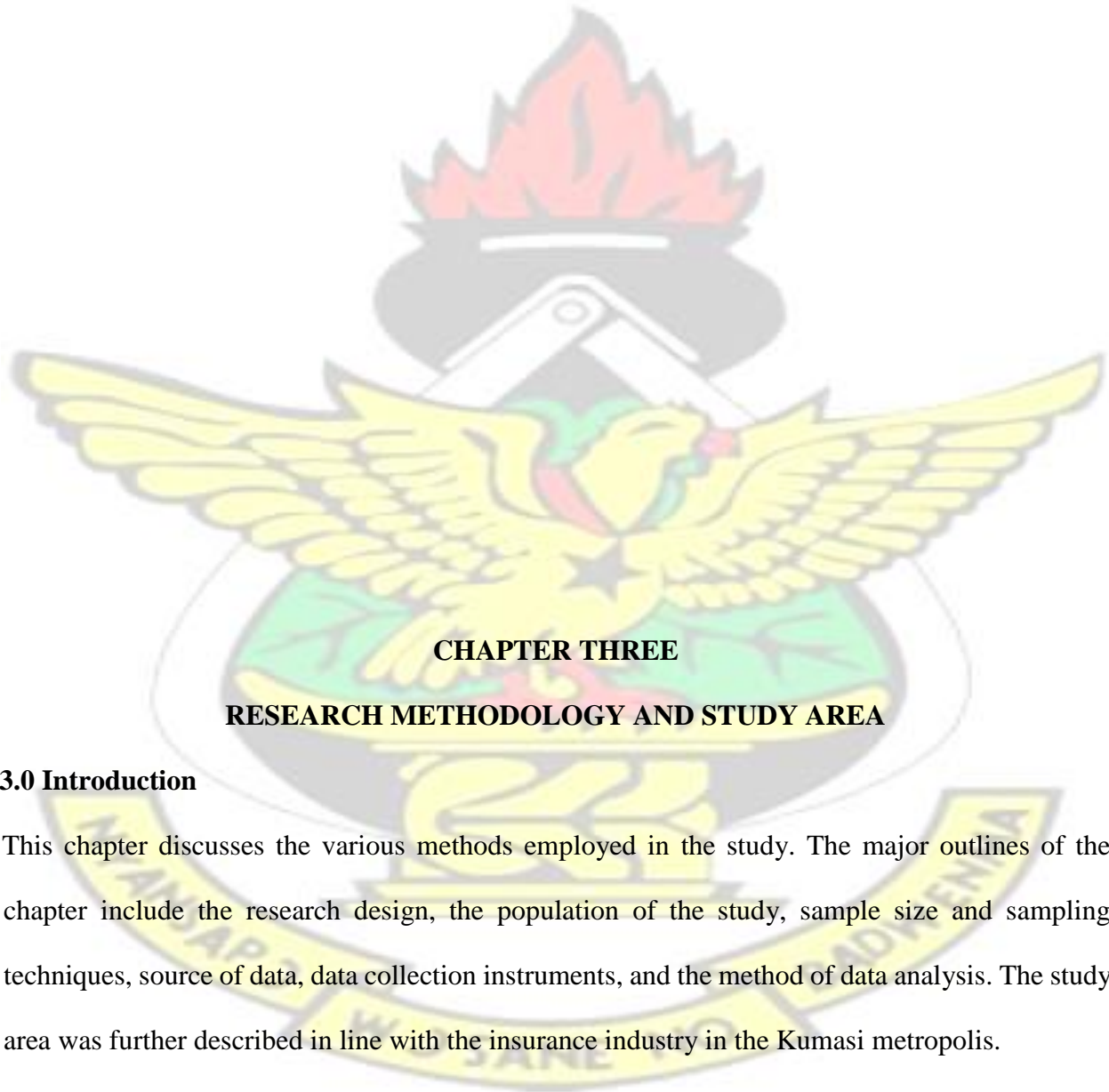
CHAPTER THREE

RESEARCH METHODOLOGY AND STUDY AREA

3.0 Introduction

This chapter discusses the various methods employed in the study. The major outlines of the chapter include the research design, the population of the study, sample size and sampling techniques, source of data, data collection instruments, and the method of data analysis. The study area was further described in line with the insurance industry in the Kumasi metropolis.

3.1 Research design

The data of the study was obtained through a household survey in the Kumasi metropolis of Ghana. Survey research is frequently employed to examine the views, feelings, and moods of individuals (zechmeister & Jeanne, 2011), in this context the micro insurance consumption behaviour of households. The survey design is employed by numerous groups or researchers including psychologist and sociologist and many other social scientists. Surveys consist of a predetermined set of questions that is given to a sample (zechmeister & Jeanne, 2011). Given a characteristic sample, specifically, a size that is illustrative of the target population of interest, the behaviour and attitude of the households towards micro insurance products of the population can be described based on the sample. Furthermore, the attitude and behaviour of different groupings (purchasers and non-purchasers of micro insurance products) of the population can be compared over time.

There are numerous different designs that can be used in survey research. Successive independent sample, cross-sectional and longitudinal studies are the three general types of research design. However, the current study is cross-sectional since the sample is drawn from the relevant or target population and studied once. The study employed both descriptive and inferential analytical methods.

3.2 Study area

The capital city of the Ashanti region of Ghana, Kumasi, is situated in the south-central sector, roughly 250 km northwest of Accra with an estimated scope of 254 km^2. Kumasi with a population of 2,035,064 is ranked next to Accra as Ghana‟s largest cities (Population and Housing Census, 2010). Kumasi can boast of several economic activities that can categorically be grouped into three. These three major economic activity categories include Industry, Agriculture and Service

or Commerce. The predominant performed economic activities within the region falls under the commerce sector that constitutes about 71% of the total economic activities of the city. The service sector is made up of a cohesive structure of markets at Adum CBD, Kumasi Central Market that connects to several satellite markets at Asafo, Ahinsan,

Amakom, Asawase, Atonsu-Agogo, Ayigya, Bantama, Bomso, Oforikrom, Santasi, Suame,

Tafo, Tarkwa etc. Additionally, Traditional caterers, Insurance, Hotels, Banking, Restaurants, Transportation and other Tourist sites are found in the city.

As part of the service sector is the insurance industry. As at 2011 December, there were 20 insurance companies operating in the Kumasi metropolis. Some of the major insurance companies in the Kumasi metropolis include the Metropolitan Insurance Co. Ltd., Enterprise

Insurance Co. Ltd., KEK Insurance Brokers Ltd., SIC Insurance Company Ltd., Star Assurance Co. Ltd., Vanguard Assurance Co. Ltd., Quality Insurance Co. Ltd., Akoto Risk Management Ltd., HKB Consult, Ghana Union Assurance Co. Ltd., Unique Life Assurance Co. Ltd., Equity Assurance Ltd., Gemini Life Insurance Co. (GlIco), Ghana Life Insurance Co. Ltd., Enterprise Life Assurance Co. Ltd., IGI Ghana Ltd., India Assurance Co. Ltd., International Energy Insurance Co. Ltd., Phoenix Insurance Gh. Ltd., and Unique Insurance Co. Ltd. (www.ghanayellow.com). Though the insurance companies provide several insurance products or schemes to the households in the Kumasi metropolis, the greater emphasis of the current study is on health insurance, property insurance and educational insurance.

The insurance companies have introduced a number of micro insurance products in attempt to provide an avenue for low income earners in the country to have some sought of cushioning in their daily life or activities. In 2013, the branch of Glico Life in Kumasi launched the "Edwa Nkosuo" and "Anidaso" that constitutes key micro-insurance schemes in Kumasi. "Edwa Nkosuo" and "Anidaso", which in the local Ghanaian Akan parlance indicates "business progression" and "hope" correspondingly, are micro-insurance schemes structured to provide safety net for households in the low income category including Artisans, petty traders, peasant farmers, clerical and factory workers and many more. The micro insurance schemes may be purchased together with savings paybacks or as a single micro insurance policy. "Edwa Nkosuo" and "Anidaso" may be expanded in scope to include immediate relatives that depends on the insured.

3.3 Population of the study

The data used in this study was obtained through a household survey conducted in Kumasi metropolis of Ghana in August, 2015. The surveyed population was all households in the Kumasi metropolis of the Ashanti Region of Ghana. Based on the 2010 report of the population and housing census (PHC), the population of the Kumasi metropolis in 2010 was 2,035,064. The study is reliant on this estimated population figure because of the absence of more current population figure for the Kumasi metropolis. Based on the nature and the theme of the study, the communities in the Kumasi metropolis have been categorized into income groupings as shown Table 3.1. One reason for using income groups as a basis is that consumption is a function of income (Edgmand, 1987), and its determination as the single most importance factor in consumption. Boccaletti et al. (2000) for instance suggest that households with higher income are likely to demand more of products.

Table 3.1: Residential Income Classes of Communities in the Kumasi Metropolis

High Income	West Ayigya, Ridge, Parakuo Estate, Odeneho Kwadaso, Nhyiaeso, New Amakom Extension, Mbrom, Extension, Danyame, Dadiesoaba, Daban New Site, Bomso, Bompe, Asokwa, Asokwa Residential Area, Aketego, Ahodwo, Adiembra, Adiebeba
Middle Income	South Suntreso, Santase Odumase Extension, Patase, Ohwimase, New Tafo, New Atonsu, New Agogo, Kyirapatre Estate, Kwadaso Estate, Kuwait, Kotei, Kentinkrono, Gyenyase, Dichemso, Bohyen, Boadi West Patase, Bantama, Atonsu, Asebi, Asanti Newtown, Asafo, Aprade, Apiri, North Suntreso, Anyinam, Amakom, Airport, Adumanu, Adumanu Extension, Adoato
Low Income	Yenyawso, Yalwa, Sokoban, Sokoban, Sawaba, Pakuso, Old Tafo, Nsenee, Nima, Moshie Zongo, Kaase, Gyinyase, Dompoase, Dichemso, Dakwadwom, Daban, Buokrom, Buobai, Ayigya Zongo, Ayeduase, Asewase, Apatrapa, Anwomaso, Amanfrom, Ahinsan, Adukrom, Abrepo, Aboabo

Source: KMA (2015)

3.4 Sample size and sampling technique

A total sample size of 400 households was randomly selected based on the De vaus (2002) sample size proportion formula given as:

$$\frac{N}{n \ \Box \ 1 \Box \ N e \ \Box \ _2\Box}; \ n \ \Box \ 1\Box \quad \frac{2,035,064}{} \quad \frac{2,035,064}{}; n \ \Box \ 399.9 \Box \quad 400 \text{ households}$$

$2,035,065 \ 0.05 \Box \quad _2\Box; \ n \ \Box \quad 5,088.66 \ where:$

n $\square$ Sample size
N $\square$ Population e $\square$
Significance Level

A multistage sampling technique is employed for this study. This is employed to ensure fair representation of the various consumer groups within the metropolis in the study. The communities were stratified into low, middle and high income groups using available data from Kumasi Metropolitan Assembly (KMA). That is, in the first stage of the sampling procedure, the communities in the Kumasi metropolis were stratified into the three major income groups based on the residential income classes of communities in the Kumasi Metropolis. In the second stage, simple random sampling by balloting procedure was employed to select four communities from each income group. Based on the calculated sample size of 400 households, the households within each stratum were proportionately sampled according to these percentages; 19.3%, 30% and 50.7% (GLSS, 2000) for high, middle and low income earning categories of respondents respectively. The communities and the corresponding households selected for the study is shown in Table 3.2.

In the third stage, a systematic random sampling procedure was used. To cover the entire community using this method, the sampled communities were divided into four quadrants and each covered thoroughly till the allotted sample size for the community is exhausted. The direct method of interviewing was adopted through a well-designed questionnaire. This aided in expatiating on the queries that are challenging to response, to acquire the precise data required for the research, and also to accord the researcher the chance to inform the participants of the study.

Table 3.2: Distribution of Households Sampled within the Sampled Residential

Income group	Communities	Number of households
High income		
	Asokwa	19
	Adiebeba	19
	Danyame	19
	Asokwa Residential Area	20
Total		**77**
Middle income		
	Amakom	30
	North Suntreso	30
	South Suntreso	30
	Kwadaso Estate	30
Total		**120**
Low income		50
	Aboabo	
	Moshie Zongo	51
	Dichemso	51
	Dakwadwom	51
Total		**203**
Overall total		**400**

Source: Field survey, 2015

3.5 Source of data

The study principally relied on primary source of data. For instance, data on the perception of the households about micro insurance products assessed to determine their level of knowledge and awareness about micro insurance products in Ghana was primary in nature. However, the secondary source of information for the study constituted the depth of academic studies on the determinants of households demand for micro insurance the world over. Consequently, papers, internet sources, unpublished and published studies constituted the additional source of information.

3.6 Data collection instruments

Structured questionnaire was the primary data collection instrument employed for the study. The mode of application of this instrument in the collection of the data is comprehensively described the following segment.

3.6.1 Questionnaire

The structured questionnaire was relied on for collating information for partly providing answers for the research questions. The survey was established and constructed on both closed and openended queries. The closed-ended queries were employed to examine the ranking of numerous qualities and this aided in plummeting the quantity of associated replies so as to acquire extra diverse replies. The questionnaires were administered on a personal basis with the households in the Kumasi metropolis.

A single questionnaire was designed for the participants of the study. The questionnaire was divided into four parts: (1) the first section had to do with the household's socio demographic characteristics such as age, gender, marital status, household size, employment status and the level of education; (2) the second section of the questionnaire provides statements to identify the households demand for micro insurance products; (3) the third section examined the households perception of micro insurance products through the examination of households knowledge and awareness about micro insurance products; and (4) the fourth section provides statements to identify the factors influencing households demand for micro insurance products. The greater portion of the constructs were examined via a likert scaling method.

3.6.2 Data collection procedure

The questionnaire administration began with the high income communities. It took the researcher a week to complete the administration of the questionnaire with the 77 high income group. In the subsequent week, the researcher commenced with the administration of the questionnaire with the middle income group and completed it in two weeks. The last of the administered questionnaires with the lower income group took three weeks due to the large size of this group. The survey of each community in a group was done by dividing the community into a quadrant and systematically surveyed till the entire sampled households were exhausted. This system was employed to ensure that the greater part of the communities is covered.

3.6.3 Pre-testing of instruments of the study

To optimize the consistency and rationality of the survey, queries obtained for the study were pre-examined on 30 selected households of Kyirapatre Estate, Apatrapa and West Ayigya the Kumasi Metropolis. The reliability of the key constructs of the study was checked through a reliability analysis employing the Crobach Alpha as measuring coefficient. The Cronbach Alpha value of the overall pre-tested questionnaire was 0.895, greater than the reliability threshold of 0.700.The participants were asked to fill out the initial surveys based on their perception and demand for micro insurance products. The initial survey took about five to ten minutes with each individual household. By conducting the pre-test survey, the investigator made sure that the examined study constructs reflected actual interactions and expectations of the interrogated respondents. The outcome of the pre-test scrutiny indicated that the participants of the pilot study regarded some of the constructs as examining the similar concepts, and so the questionnaire was re-designed and structured.

3.7 Method of data analysis

The collated data for the study was analyzed in two ways. Initially, a descriptive analysis of important variables was conducted using frequencies, percentages and measures of central tendencies in tabular analysis. Secondly, the factors influencing household"s demand for microinsurance including socio-demographic factors, economic factors, socio-cultural factors and structural factors were analyzed using multinomial logit regression analysis. The multinomial logit regression is suitable because the dependent variable constitutes households demand for three major micro-insurance products: health insurance scheme, property insurance and educational insurance. The estimated parameters were obtained using the STATA 13 software. The major variables used in the multinomial logistic regression model are defined in the Table 3.3.

3.7.1 Empirical Analysis of Household's demand for Micro-insurance Products

In this study, a household in the Kumasi metropolis is defined as a subscriber of micro-insurance product if he or she is found to have purchased any form of micro-insurance products. To assess the factors that determine the households" demand for a particular type of micro insurance product, a multinomial logit regression model was estimated. This model is significant because relatively factors that would influence households" subscription of particular type of microinsurance products would not necessarily be the same. Multinomial regression model is therefore estimated for three most common micro insurance products in Ghana. Multinomial logistic regression is often employed for the analysis of categorical response information with continuous or categorical explanatory variables. The households" subscription decisions are typically modeled as the outcome of a utility maximization problem. The framework assumes that if subscription of a

particular micro insurance is possible, it is expected that, in deciding to subscribe to one type of micro-insurance, a household compares the indirect utility values associated with each micro insurance product. Consequently, to study the ith households" choice, random utility models were postulated, each being associated with the jth choice of micro insurance type, such that: U_{IC}, U_{iR}, and U_{iN} denote the ith households" expected utility from subscribing to Health, Property and Educational insurance products. The observed variable in this case is not expected utility but the households" choice decision Y_i, where

$$Y_i = \begin{cases} 0 \text{ if } U_{iC} \geq U_{iN} \text{ and } U_{iC} \geq U_{iR} \\ 1 \text{ if } U_{iR} \geq U_{iN} \text{ and } U_{iR} > U_{iC} \\ 2 \text{ if } U_{iN} \geq U_{iR} \text{ and } U_{iC} > U_{iR} \end{cases} \qquad (1)$$

The logit model employed for the current research is given as:

$$\begin{aligned} Pr(Y_1^* = 1 \mid x_1) &= Prob\, Y(\beta_1 > 0) \\ &= Pr(x_1'\beta + \varepsilon > \beta_1 > 0) \\ &= Pr(\varepsilon > \beta_1 x_1) \\ &= Pr\, F\, x(\beta_1') = F\, Z( ) \end{aligned} \qquad (2)$$

Where Pr is the probability that a household will purchase a micro insurance product or scheme, Y_i is the dependent variable (demand for micro insurance scheme or product), Y_1^* is the threshold figure of the dependent variable. The equation $Pr(Y_{1*} = 1 \mid x_1)$ produces $Pr(\varepsilon > \beta_1 x_{1,}) = F\, x(\beta_{1,})$, where F(.) is cumulative distribution function assuming logistic distribution and so produces:

$$Pr(y^* = 1) \frac{1}{1+e^{-(\alpha+\beta x_i)}} = F(\alpha + \beta x_i) \qquad (3)$$

The parameters β_i of the logit model do not provide direct information about the effect of the changes in the explanatory variables and the probability of demand for micro insurance products or schemes. The relative effect of each explanatory variable on the likelihood that a household will demand micro insurance product or scheme is given as:

$$\frac{\partial P_{ij}}{\partial x_{ij}} = \beta_{ij} * fZ(_i) \tag{4}$$

Where P_i is the mean dependent variable whose value is given in the logit result as

$$fZ(_i) = F(\beta'X_{1i}) \tag{5}$$

Furthermore, each individual household"s expected utility under the alternative micro insurance product is assumed to be a function of a vector of explanatory variables, X_i, plus a random disturbance that captures unmodeled effects. The study therefore modeled the choice of micro insurance products using multinomial logit. A multinomial logit specification gives rise to a system of three probabilities (Maddala, 1990):

$$P_j = \text{Prob}(Y_i = j) = \frac{e^{\beta_j x_i}}{\sum_{m=0}^{2} e^{\beta_m'}} \qquad j = 0, 1, \text{ or } 2 \tag{7}$$

Where β_j is a vector of parameters that relates the characteristics X_i of the various micro insurance products to the probability that $Y_i=j$. because the three probabilities must sum to one, a convenient normalization rule is to see one of the parameter vectors, say β_0, equal to zero. In this case, the base outcome (education) produced a β_0 of zero.

The model (7) is further expanded empirically in model (8), the final model estimated:

$$Y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \beta_4 x_{4i} + \beta_5 x_{5i} + \beta_6 x_{6i} + \beta_7 x_{7i} + \beta_8 x_{8i} + \beta_9 x_{9i} \tag{8}$$

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$$\square\square \square \square \square \square \square \square \square_{10}{}_{10}x_i \square_{11}{}_{11}x_i \square_{12}{}_{12}x_i \square_{13}{}_{13}x_i \square_{14}{}_{14}x_i \square_{15}{}_{15}x_i \square_{16}{}_{16}x_i \square_{17}{}_{17}x_i \square_i$$

Where Y_i can assume values of 0, 1, 2 if a household purchases property micro insurance, health micro insurance and educational micro insurance respectively as the dependent variable is multinomial in character. The parameter estimate of equation (8) was obtained by maximum likelihood method. This procedure does not require assumptions of normality or homoskedasticity of errors in predictor variables. This analysis was carried out using STATA version 13. Table 3.3 below provides the description of the independent variables estimated in the multinomial logit model with their *apriori signs*. The basis for the expected signs in Table 1 is discussed and explained in Chapter two of the study.

Table 3.3: Description of Variables that will be used in the Multinomial Logit Model

Dependent variable: Micro-insurance products purchased (0=Health, 1=Property, 2=Education)		
Explanatory variables	**Definition of explanatory variables**	**Apriori Signs**
Socio demographics		
Gender (x_1)	Females=1, otherwise=0	+
Age (x_2)	Age of respondent	+
Marital status (x_3)	Married=1, Otherwise=0	+
Household size (x_4)	Number of people in a single household	+
Employment (x_5)	Employed=1, otherwise=0	+
Level of education (x_6)	Schooling years of head of household	+
Economic factors		-
Price of micro insurance (x_7)	Premium high=1, otherwise=0	
Wealth/Income (x_8)	Monthly income of head of household in GH¢	+
Socio-cultural factors		
Trust (x_9)	Trust insurance companies=1, otherwise=0	+
Risk aversion (x_{10})	Feel exposed to risk=1, otherwise=0	+
Religion (x_{11})	Christian=1, otherwise=0	+
Financial literacy (x_{12})	Financially literate=1, otherwise=0	+

Peer influence (x_{13}) **Structural factors**	Peer influence=1, Otherwise=0	+/-

Quality of services (x_{14})	Quality of service is high=1, otherwise=0	+
Coverage of service (x_{15})	Wider coverage=1, otherwise=0	+
Other factors		
Accessibility (x_{16})	Accessible=1, Otherwise=0	+
Awareness (x_{17})	Aware=1, Otherwise=0	+

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION

4.0 Introduction

This chapter is made up of two main sections. In section one, results of descriptive analyses based on the survey data are presented and discussed. The descriptive analyses cover the sociodemographic characteristics of the surveyed households; the demand for micro insurance schemes, household''s source of information about micro insurance schemes, the knowledge, awareness and perception of households about micro insurance schemes. The other section of the chapter, discusses the empirical results on the determinants of micro insurance products in the study area employing both binary and multinomial regression model.

4.1 Descriptive Analyses

This section is made up of the descriptive part of the results. In this section, socio-demographic characteristics of household head; demand for micro insurance products; and households information about micro insurance products are examined. Also, the section further examines the household''s knowledge, awareness and perception of micro Insurance.

4.1.1 Socio demographic characteristics of household heads

The major socio demographic characteristics of the surveyed household heads are examined in this section of the study. The key socio demographic characteristics of the surveyed households examined include gender distribution, age of distribution of the households, marital status of the

households, employment status, monthly income level, highest educational level and the religion

of the households. The cross tabulation result of the section is presented in Table 4.1.

Table 4.1: Socio demographic information of household heads

Socio Demographics	Subscribers (n=309)		Non-Subscribers (n=91)		Total (n=400)
	Frequency	Percent	Frequency	Percent	
Gender					
Male	154	49.8	59	64.8	213(53.2)
Female	155	50.2	32	35.2	187(46.8)
Age					
21-30 years	61	19.7	50	54.9	111(27.8)
31-40 years	87	28.2	21	23.1	108(27.0)
41-50 years	123	39.8	20	22.0	143(35.8)
51 years +	38	12.3	0	0.0	38(9.5)
Marital Status					
Married	157	50.8	31	34.1	188(47.0)
Single	80	25.9	50	54.9	130(32.5)
Divorced	43	13.9	0	0.0	43(10.3)
Widowed	29	9.4	0	0.0	29(7.2)
Others	0	0.0	10	11.0	10(2.5)
Employment Status					
Employed	255	82.5	40	44.0	295(73.8)
Unemployed	54	17.5	51	56.0	105(26.2)
Monthly Income					
Below 200	31	10.0	10	11.0	41(10.2)
200-500	101	32.7	61	67.0	162(40.5)
501-1000	108	35.0	12	13.2	120(30.0)
More than 1000	69	22.3	8	8.8	77(19.2)
Highest Level of Education					
None	11	3.6	0	0.0	11(2.8)
Basic	42	13.6	10	11.0	52(13.0)
SHS	63	20.4	53	58.2	116(29.0)
Teacher/Polytechnic	62	20.1	28	30.8	90(22.5)
Tertiary	131	42.4	0	0.0	131(32.7)
Religion					
Islamic	85	27.5	0	0.0	85(21.2)
Christianity	198	64.1	80	87.9	278(69.5)
Others	26	8.4	11	12.1	37(9.2)

Source: Field Survey, 2015

The result of Table 4.1 shows that the majority (50.2%) of the surveyed subscribers of micro insurance schemes were females whereas 49.8% were males. The predominance of the female subscribers of micro insurance schemes could be attributed to their risk aversion attitude. Out of the total households that have subscribed to micro insurance schemes, 19.7% were between 21 and 30 years, 28.2% were between 31 and 40 years, 39.8% were between 41 and 50 years and 12.3% were 51 years or more. The majority (50.8%) of the surveyed household that have subscribed to micro insurance schemes were also married whereas 25.9% were also single. The married have larger households and higher expenditure and so would prefer to reduce expenditure through the purchase of micro insurance schemes like health and education. The majority (82.5%) of the surveyed household micro insurers were also employed whereas 17.5% were unemployed. This result could be explained by the fact that the employed relatively have a higher financial capacity to purchase micro insurance schemes. The majority of the surveyed household micro insurers were between the monthly income category of GH¢200 and GH¢1000. This therefore indicates that the majority of the surveyed subscribers of micro insurance scheme were middle income or higher income households in the Kumasi metropolis. The majority (42.4%) of the surveyed micro insurers also have higher level of education of tertiary education whereas 20.1% have teacher training or polytechnic education. The majority (64.1%) of the surveyed household micro insurers were Christians and this is not surprising since Christianity is far the dominant religion in Ghana.

The result of the Table 4.1 further shows that the majority of the surveyed households that have not subscribed to micro insurance were males whereas 35.2% were also females. This result could be explained by the fact that males are generally risk neutral and have lower likelihood of

purchasing micro insurance schemes compare to their female counterparts who are generally risk averse. The majority (54.9%) of the households that have not subscribed to micro insurance schemes were also relatively younger falling within the age category of 21 and 30 years whereas 23.1% were also within the age category of 31 and 40 years. The aged are more susceptible to diseases and sickness and also relatively have higher income levels and so have higher probability of subscribing to micro insurance schemes. The majority (54.9%) of the surveyed households that are non-subscribers of micro insurance schemes were single with 34.1% married. The majority of the surveyed non-subscribers of micro insurance schemes were unemployed and within the middle income category. Furthermore, the majority (58.2%) of the non-subscribers of micro insurance schemes have highest level of education of Senior High School (SHS) which is relatively lower compare to that of the insurers of tertiary education. Unsurprisingly, the majority of the surveyed households that have not subscribed to micro insurance schemes were Christians.

4.1.2 Demand for micro insurance products

This section of the study examines the proportion of the surveyed households in the Kumasi metropolis that have subscribed to various forms of micro insurance schemes including property, health, life and educational micro insurance schemes. The result of the section is presented in Table 4.2.

Table 4.2: Subscription Micro Insurance Products

Variables	Income Category			Total
	Low Income	Middle Income	High Income	
Currently purchase of micro insurance				
Yes	132(65.0)	108(90.0)	69(89.6)	309(77.2)
No	71(35.0)	12(10.0)	8(10.4)	91(22.8)
Total	**203(100.0)**	**120(100.0)**	**77(100.0)**	**400(100.0)**
Form of micro insurance subscribed				
Property	0(0.0)	24(22.2)	0(0.0)	24(7.8)
Health	130(98.5)	60(55.6)	7(10.1)	197(63.8)
Life + Property	0(0.0)	0(0.0)	8(11.6)	8(2.6)
Property + Education	0(0.0)	12(11.1)	8(11.6)	20(6.5)
Health + Education	0(0.0)	12(11.1)	15(21.7)	27(8.7)
Life + Property + Health	0(0.0)	0(0.0)	16(23.2)	16(5.2)
Life + property + Education	0(0.0)	0(0.0)	8(11.6)	8(2.6)
Others	2(1.5)	0(0.0)	7(10.1)	9(5.9)
Total	**132(100.0)**	**108(100.0)**	**69(100.0)**	**309(100.0)**

Percentages are in Parentheses

Source: Field Survey, 2015

The result of the Table 4.2 shows that the majority (77.2%) of the surveyed household heads have subscribed to varying forms of micro insurance schemes in the Kumasi metropolis whereas 22.8% are yet to do so. Out of the total surveyed low income households of 203, the majority (65.0%) have subscribed to micro insurance products with 35.0% yet to subscribe to any form of micro insurance schemes. The form of micro insurance scheme predominantly subscribed by the majority (98.5%) of the low income households was health insurance scheme. The finding of this study is consistent with the study of Ackah and Owusu (2012) who also found that 60% of the households had one insurance policy or the other with the majority (82 percent) holding the

national health insurance policy (NHIS). This finding is not surprising since in 2011 the Ghana Business News also revealed that the mandatory National Health Insurance Scheme has the highest level of subscription of 65% with some non-operational membership.

The majority (90.0%) of the middle income households have also subscribed to micro insurance schemes whereas 10.0% are also yet to do so. The majority (55.6%) of the surveyed middle income households have also subscribed to health micro insurance schemes whereas 11.1% have also subscribed to life and property micro insurance schemes. Furthermore, 22.2% and 11.1% of the middle income households have also subscribed to property micro insurance and health plus educational micro insurance schemes respectively. The high income households that have also subscribed to numerous micro insurance schemes were 89.6% whereas 10.4% of the households are yet to do so. The high income household have subscribed to varying and many forms of micro insurance products or schemes including health, property, life and education.

4.1.3 Household's source of information about micro insurance products

The sources of information of the surveyed households in the Kumasi metropolis about micro insurance schemes are examined in this section of the study. The result of the section is presented in Table 4.3.

Table 4.3: Source of information about micro insurance products

Source of Information	Subscribers		Non-Subscribers		Total
	Frequency	Percent	Frequency	Percent	
Newspaper	0	0.0	18	19.8	18(4.5)
Radio & TV	62	20.1	22	24.2	84(21.0)
Micro insurance agents	134	43.4	11	12.1	145(36.2)
Family & friends	113	36.6	40	44.0	153(38.2)
Total	**309**	**100.0**	**91**	**100.0**	**400(100.0)**

The result of the Table 4.3 shows that the major source of the majority (43.4%) of the households that have subscribed to micro insurance schemes about micro insurance products was micro insurance agents whereas 36.6% also received the information from their respective friends and family. However, the subscribers of micro insurance scheme rarely are informed by radios, TVs and internet on the need to purchase various forms of micro insurance schemes. Furthermore, out of the total non-subscribers of micro insurance schemes, 19.8% received the information on micro insurance scheme from newspapers, 24.2% received the information from radios and TVs, 12.1% received the information from micro insurance agents and 44.0% also received the information from family and friends.

4.1.4 Knowledge, Awareness and Perception of Households about Micro Insurance This section of the study examines the knowledge, awareness and perception of the households in the Kumasi metropolis about micro insurance schemes. The cross tabulation result of the subscribers and non-subscribers of micro insurance awareness, knowledge and perception of micro insurance schemes is presented in Table 4.4.

Table 4.4: Knowledge, Awareness and Perception of Households about Micro-Insurance

Variables	Subscribers		Non-Subscribers	
	Mean	SD	Mean	SD
Perception				
Micro insurance premiums are too high	3.44	0.91	3.15	1.10
It is difficult in claiming benefits from micro insurance products or schemes	3.80	0.84	3.32	0.94
The process of claiming micro insurance benefits are too bureaucratic	3.74	1.16	3.09	0.98
I don"t like micro insurance because I believe is for only the rich	2.09	1.05	2.51	1.34
I don"t believe claims of micro insurance schemes would be paid	2.45	1.04	3.30	0.91
Knowledge				
Micro insurance schemes are free	1.92	0.83	2.09	1.11
Micro insurance subscribers are required to pay premium	3.69	0.85	3.21	1.03
There is no need to pay regular premium for micro insurance products	2.40	1.10	2.46	1.07
Micro insurers get money back if no claim is made	2.54	1.39	2.65	1.34
I don"t need insurance because I am not susceptible to accidents	1.78	0.88	2.46	1.65
Services rendered is often below premiums paid	3.08	1.07	3.68	0.68
Insurers contribute specific amount	3.15	1.37	3.12	0.88
Awareness				
I am unaware about any form of micro insurance	1.23	0.14	2.63	1.47
No one has ever suggested to me any form of micro insurance	1.83	1.49	2.18	1.16

Rank: [1-strongly disagree, 2-disagree, 3-fairly agree, 4-agree and 5-strongly agree] Source:
Field Survey, 2015

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4.1.4.1 Perception of households about micro insurance schemes

The result of the Table 4.4 shows that the majority of the surveyed households that have subscribed to micro insurance products fairly agreed that the price or premium of micro insurance products are too high as shown by the mean response value of 3.44. The surveyed households that have subscribed to micro insurance products however perceive the claiming of benefits from micro insurance products as difficult as shown by their mean response value of 3.80 which indicates agreement to the statement. The mean response value of 3.74 indicates that the households that have subscribed to micro insurance products perceive the process of claiming micro insurance benefits as too bureaucratic. This finding is supported by the study of Owusu (2007) that showed that delays in claim payments, and fraudulent claims of households on micro insurance schemes limits their subscription level. Some claims are deceptively made and a study currently carried by the International Insurance Associations puts the level of spotted and alleged fraud in insurance claims of 5% to 10% each day. Indeed, using a claims cost of 100,000 per working day, experts say the country suffers a fraud cost of between GH¢ 5,000 and GH¢ 10,000 a day (Ackah & Owusu, 2012). However, the mean response value of 2.09 indicates that the surveyed households that have subscribed to micro insurance products do not agree that micro insurance products are not patronized because is predominantly for the rich. The surveyed household that have subscribed to micro insurance products further do not perceive that micro insurance claims would not be paid when due as shown by their mean response value of 2.45.

The result of the Table 4.4 shows that the majority of the household non-subscribers of micro insurance products fairly agreed that micro insurance premiums are too high as shown by the mean response value of 3.15. The majority of the surveyed household non-subscribers of micro

insurance products further fairly agreed that it is difficult in claiming benefits from micro insurance schemes as shown by their mean response value of 3.32. the surveyed household nonsubscribers of micro insurance products further fairly agreed that the process of claiming micro insurance benefits are too bureaucratic and do not like micro insurance products because is predominantly for the rich in society. The surveyed non-subscribers of the micro insurance products also fairly agreed that claims of micro insurance schemes would be paid as shown by the mean response value of 3.30.

4.1.4.2 Household's knowledge and awareness about micro insurance schemes

The result of Table 4.4 shows that the majority of the surveyed subscribers of micro insurance products disagreed that micro insurance schemes are free as shown by their mean response value of 1.92 but agreed that micro insurance subscribers are required to pay premium for subscription as shown by their mean response value of 3.69. The surveyed subscribers of micro insurance products further disagreed with the statement that there is no need to pay regular premium for micro insurance schemes as shown by the mean response value of 2.40. However, the surveyed households that have subscribed to micro insurance products fairly agreed that micro insurers get money back if no claim is made as shown by the mean response value of 2.54. The subscribers of micro insurance further disagreed with the statement that households do not need insurance because they are not susceptible to accidents as shown by their mean response value of 1.78. The surveyed micro insured households however fairly agreed that service provided by micro insurance schemes are often below premium paid. The discussion provides evidence to the effect that the households that have subscribed to micro insurance schemes have adequate knowledge about micro insurance products. Notwithstanding, this findings is supported by the study of Owusu

(2007) that showed that low knowledge of households on micro insurance schemes limits their subscription level.

The non-subscribers of micro insurance also disagreed that micro insurance schemes are free and further fairly agreed that micro insurance subscribers are required to pay premium as shown by their mean response value of 3.21. The surveyed households that were non-subscribers of micro insurance products also disagreed that there is no need to pay regular premium for micro insurance products, and that there is no need for micro insurance schemes because they are not susceptible to accidents as these statements produced approximate mean response values of 2.00. However, the surveyed micro insurance non-subscribers fairly agreed that micro insurers get money back if no claims are made as shown by the mean response value of 2.65. The surveyed households that have not subscribed to micro insurance however believe that they do not need micro insurance product or schemes since they are less susceptible to accidents. Though the surveyed non-insured households fairly agreed that there is the need for the contribution of specific amount, they further agreed that the services provided by the micro insurance providers is often below premiums paid by the households as shown by the mean response value of 3.68.

The result of the Table 4.4 shows that the subscribers of the micro insurance scheme relatively are aware of varying types of micro insurance schemes compare to their uninsured counterpart. Furthermore, both the subscribers and non-subscribers of micro insurance schemes have received suggestion on the need to purchase micro insurance schemes. This therefore indicates that there is not much difference between the subscribers and non-subscribers in terms of awareness about micro insurance product or schemes.

4.2 Determinants of micro insurance products

This section of the study empirically assesses the factors affecting household's subscription of micro insurance products in the study area. Table 4.5 reports the descriptive results of the major variables used in the empirical model. The descriptive result of the table (4.5) shows that the average age of the subscribers of 40.69 years was statistically associated with the age of the nonsubscribers of 32.6 at a statistical significance level of 1%. The average value of the gender of the subscribers of 0.49 was statistically significantly related to that of the non-subscribers average of 0.36 at a statistically value of 5%. The mean marital status of the subscribers of 0.55 indicates that the more of subscribers were married as compare to the number subscribers with marital mean value of 0.67. The mean household size of the subscribers of the micro insurance schemes of 4.08 members is relatively smaller that of the non-subscribers of 4.56 members. The average schooling years of the subscribers of micro insurance schemes of 13.39 years was relatively higher than that of the non-subscribers of 12.33 indicating that the subscribers are more educated. The mean monthly income of the subscribers of micro insurance schemes of GH¢ 1102.52 was relatively higher than that of the non-subscribers of GH¢ 557.70, and the lower income could therefore be a part reason for their non-subscription. The mean price value of the subscribers of 0.20 indicates that the subscribers relatively deemed micro insurance products as less expensive compare to the mean response of the non-subscribers of 0.34. The mean value of 0.70 of the financial literacy of the subscribers of micro insurance indicates that they are relatively financially literate compare to the non-subscribers with mean response value of 0.46. Furthermore, the subscribers of micro insurance products with mean awareness response value of 0.79 indicates that they are more aware of micro insurance products compare to the nonsubscribers with mean awareness response value of 0.44. These descriptive analysis and conclusions are further certified statistically by both binary and multinomial logistic regression model result in the subsequent sections. It should be further

emphasized that definition and description of the variables in Table 4.5 are given in Table 3.3 in Chapter Three.

Table 4.5: Descriptive summary of variables used in the logit model

	Mean Statistic		Chi-square test
Independent variables	Subscribers	Non-Subscribers	
Socio demographics			
Gender (x_1)	0.49	0.36	5.34[**]
Age (x_2)	40.69	32.6	1.67[***]
Marital status (x_3)	0.55	0.67	17.72[***]
Household size (x_4)	4.08	4.56	43.67[***]
Employment (x_5)	0.15	0.56	60.55[***]
Level of education (x_6)	13.39	12.33	63.56[***]
Economic factors			
Price (x_7)	0.20	0.34	7.74[***]
Income (x_8)	1102.52	557.70	2.23[***]
Socio-cultural factors			
Trust (x_9)	0.57	0.48	2.28
Risk aversion (x_{10})	0.82	0.78	0.66
Religion (x_{11})	1.00	0.72	32.75[***]
Financial literacy (x_{11})	0.70	0.46	6.51[**]
Peer influence (x_{12})	0.42	0.67	17.12[***]
Structural factors			
Quality of services (x_{13})	0.13	0.47	47.43[***]
Coverage of service (x_{14})	0.26	0.58	30.73[***]
Other factors			
Accessibility (x_{15})	0.68	0.69	0.001
Awareness (x_{16})	0.79	0.44	40.74[***]

***,** & * indicates significance levels at 1%, 5% & 10% respectively Source: Field Survey, 2015

4.2.1 Binary Logistic Regression Result of micro insurance products adoption

The binary logistic model result of Table 4.6 provides a diagnostic result that indicates goodness of fit of the model. The log likelihood ratio statistics was significant and so follows chi-square distribution (χ^2). The insignificants of the Hosmer-Lemeshow test also indicates good fit of the

model. Hosmer and Lemeshow (2000) reported that insignificant test shows a well-designed or structured regression model. The estimated model shows that 23% of the variation in the dependent variable (adoption of micro insurance products) is expatiated by the explanatory variables as given by the Pseudo R^2 value of 0.23. There are therefore adequate facts to indicate that the binary logistic model is systematically well-structured.

The result of the binary model presented in Table 4.6 shows that there is negative marginal effect of 0.1111 between gender and subscription to micro insurance at a statistical significance level of 5%. This therefore implies that males have greater probability of subscribing to micro insurance products. This result is surprising since females are generally believed to be risk averse compare to their male counterparts. This finding is inconsistent with many existing literature. The study of Schneider and Diop (2001) for instance revealed positive relationship between micro health insurance and the gender of the household. In Ghanaian, Nketiah (2009) suggested that access to health insurance is crucial especially to women in the fertility bracket; as they are required to meet their health needs and those of their children. He thus argues that ownership of health insurance for mothers has the potential of reducing child and maternal mortalities.

Table 4.6: Binary logistic regression result

Micro-Insurance Adoption	Odds ratio	Std. Err.	z	P>|z|	dF/dx
Socio demographics					
Gender* (x_1)	0.2781	0.1388	-2.56	0.010	0.1111
Age (x_2)	1.0590	0.0162	3.74	0.000	0.0068
Marital status* (x_3)	1.1652	0.3001	0.59	0.553	0.0164
Household size (x_4)	0.9411	0.1096	-0.52	0.602	-0.0066
Employment* (x_5)	0.4737	0.1159	-3.05	0.002	0.0901
Level of education (x_6)	1.0834	0.0857	1.01	0.311	0.0091
Economic factors					
Price/Premium* (x_7)	0.2728	0.1048	-3.38	0.001	-0.1227
Income (x_8)	1.0008	0.0004	2.24	0.025	0.0001
Socio-cultural factors					
Trust* (x_9)	2.9173	1.0971	2.85	0.004	0.1511
Risk aversion* (x_{10})	17.2071	11.1207	4.40	0.000	0.5413
Religion* (x_{11})	1.0798	0.3182	0.26	0.794	0.0093
Financial literacy* (x_{12})	6.7713	2.6750	4.84	0.000	0.3424
Peer influence* (x_{13})	1.1793	0.3213	0.61	0.545	0.0170
Structural factors					
Quality of services* (x_{14})	4.9428	1.7001	4.65	0.000	0.2557
Coverage of service* (x_{15})	1.4181	0.2622	-1.89	0.059	0.0380
Other factors					
Accessibility* (x_{16})	2.7595	0.7626	3.67	0.000	0.1457
Awareness* (x_{17}) **Diagnostic**	0.6606	0.1909	-1.48	0.151	-0.0470
Test					
Number of observations	400				
LR chi^2(17)	93.41				
Prob > chi^2	0.000				
Pseudo R^2	0.226				
Log likelihood	-160.20				
Number of Groups	10				
Hosmer-Lemeshow chi^2(8)	9.73				
Prob > chi^2	0.284				

Dependent Variable: Micro Insurance Subscription

(*) dF/dx is for discrete change of dummy variable from 0 to 1 Source:
Field Survey, 2015

There is also positive marginal effect of 0.0068 between the age of households and micro insurance

subscription at a statistical significance level of 1%. This therefore indicates that a unit increase in

the age of households in the study area is associated with 0.0068 unit increase in the subscription level of micro insurance products. This therefore indicates that the aged household heads have greater probability of subscribing to micro insurance products. This study was also consistent with the studies of Chankova et al. (2008) and Ito and Kono (2010) that also showed positive relationship between household"s demand for micro health insurance products and age. There is negative marginal effect of 0.0901 between the employment status of household heads and their subscription to micro insurance products at a statistical significance level of 1%. This therefore indicates that the unemployed household heads have greater probability or odds of subscribing to micro insurance products relative to their employed counterparts. This finding is not consistent with existing literature. For instance, the study of Giesbert (2010) and Chankova et al. (2008) reported positive relationship between household"s demand for micro insurance products and their employment status. This result implies that the employed are more likely to purchase micro insurance products compare to the unemployed. This could be attributed to their financial capacity to do so.

The price or premium of micro insurance products were found to have a negative marginal effect of 0.1227 on household heads subscription of micro insurance products at a statistical significance level of 1%. This therefore indicates that household heads that perceive the price or premium of micro insurance products as high have lower level of probability of subscribing to micro insurance products. This finding is consistent with result of the study of Cole et al. (2013) that showed that significant price sensitivity for rainfall insurance demand in India. Furthermore, Mobarak and Rosenzweig (2012) find that a 50 percent price decline relative to the actuarial price increases the probability of take-up by 17.6 percentage points, a situation similar to the finding of the current

study. The income level of the heads of households was found to have positive marginal effect of 0.0001 on their subscription of micro insurance products at a statistical significance level of 5%. This therefore indicates that households with higher monthly income levels have greater probability of subscribing to micro insurance products. This finding is consistent with the study of Outreville (1996) that also showed positive relationship between income of households and the demand for micro insurance schemes. With the level of income, micro insurance participation may increase, as consumption and human capital increases with a higher level of income, that is creates a higher demand for mortality coverage to preserve income and consumption of household head and dependents. Therefore a Ghana Cedi increase in the income of households is associated with 0.01% increase in their purchase of micro insurance products.

The result of the Table 4.6 shows that there is positive marginal effect of 0.1511 between the trust of the household heads and their purchase of micro insurance at a statistical significance level of 1%. This therefore indicates that any significant unit improvement in the trust of households is associated with 15% increase in the purchase of micro insurance schemes. This therefore indicates that households with greater trust in micro insurance schemes have greater probability of purchasing micro insurance products. This finding is consistent with the study of Cole et al. (2013) that also revealed that households in India do not fully trust or understand insurance, and that their demand is 36% when trust is improved. Furthermore, the confirmation of the current finding is given by Gine et al. (2008) who showed that trust in the insurance provider is a key determinant of rainfall insurance demand in India. There is also positive marginal effect of 0.5413 between households risk aversion attitude and their purchase or subscription of micro insurance products at a statistical significance level of 1%. This therefore indicates that household heads with greater

risk aversion attitude have greater probability of purchasing or subscribing to micro insurance schemes. This finding is also consistent with the study of Arun et al. (2012) that revealed that households that are highly exposed to risk or are risk averse in attitude have greater probability of purchasing micro insurance product or schemes.

The financial literacy of the surveyed households had a positive marginal effect of 0.3424 on their subscription to micro insurance products at a statistical significance level of 1%. Therefore, a unit increase in the level of the financial literacy of the households is associated with 34% increase in the micro insurance purchase of households. This therefore indicates that households with higher level of financial literacy have greater probability of purchasing micro insurance products. This finding is consistent with the study of Cole et al. (2013) that showed that micro insurance demand is higher among households with higher financial literacy. A households understanding of financial concepts such as interest rate compounding, inflation, and risk diversification have greater tendency of increasing demand for micro insurance (Lusardi & Mitchell, 2006). The quality of the micro insurance services have marginal effect of 0.2557 on household"s subscription of micro insurance products at a statistical significance level of 1%. Therefore a unit improvement in the quality of the micro insurance products is associated with 26% increase in the household"s subscription of micro insurance products. This therefore indicates that households that perceive micro insurance products to be quality have greater probability of subscribing to micro insurance products. This finding is consistent with the study of De Allegre et al. (2006) that also indicated that household"s choice to take-up communitybased insurance in rural West Africa is strictly related to the quality of the health centre

The coverage of micro insurance services have negative marginal effect of 0.0380 on households purchase of micro insurance products at a statistical significance level of 10%. Therefore, a unit increase in the coverage of the micro insurance service is associated with 3.8% decrease households purchase of micro insurance products. This therefore indicates that households that perceive micro insurance products to have higher coverage have lower probability of purchasing or subscribing to micro insurance products. There was also positive marginal effect of 0.1457 between micro insurance accessibility and household"s purchase of micro insurance products at a statistical significance level of 1%. Therefore, any significant unit improvement in the accessibility of micro insurance products is associated with 14.6% increase in household"s purchase of micro insurance products. Nketiah (2009) suggested that accessibility and coverage of micro insurance schemes play crucial role in the demand for micro insurance schemes among rural dwellers.

4.2.2 Multinomial Logit estimates on the determinants of micro insurance products

Table 4.7 gives the multinomial logit-estimation results for the factors influencing household"s choice of specific micro insurance product. The base outcome for the model was education. This indicates that the following discussion of the results emphasize on the effect of the independent constructs on a specific micro insurance purchase relative to education. Because odd ratios of multinomial logistic regression models are problematic in interpretation, the study presents the marginal effects to explain the effects of the independent variables on micro insurance subscription in the study area. Table 4.7 lists estimates of the marginal effects of the independent variables on the probabilities associated with outcomes. The pseudo-R square for the model was

0.1157 the Likelihood Ratio Chi-Square tests was significant. This implies that 12% of the variation in the dependent variable is explained by the explanatory variables. Thus, the

independent variables offer a good explanation for household"s decision to adopt one of the three alternatives of micro insurance products.

Table 4.7: Marginal effects of multinomial regression result

Adoption of micro insurance	Property	Health	Education
Independent variables			
Socio demographics			
Gender* (x_1)	0.0754**(2.57)	-0.1283***(-2.64)	0.0530(1.33)
Age (x_2)	-0.0023(-1.56)	0.0041**(2.08)	-0.0018(-1.17)
Marital status* (x_3)	-0.0306(-1.06)	0.0461(1.20)	-0.0155(-0.55)
Household size (x_4)	0.0090(0.70)	-0.0197(-1.07)	0.0108(0.75)
Employment* (x_5)	0.0260(1.02)	0.0136(0.35)	-0.0396(-1.20)
Education (x_6)	-0.0185**(-2.19)	0.0060(0.51)	0.0125(1.39)
Economic factors			
Price* (x_7)	0.1003***(3.87)	-0.1092**(-2.06)	0.0097(0.21)
Income (x_8)	-0.0000(-0.53)	0.0001(1.23)	-0.0000(-1.03)
Socio-cultural factors			
Trust* (x_9)	-0.1244(2.05)	0.1037(1.48)	0.0229(0.51)
Risk aversion* (x_{10})	-0.4829***(3.27)	0.4356***(3.28)	0.0534(0.68)
Religion* (x_{11})	-0.0283(-0.82)	0.0100(0.23)	0.0183(0.58)
Financial literacy* (x_{12})	-0.2507***(-3.04)	0.2356***(2.77)	0.0151(0.31)
Peer influence* (x_{13})	-0.0443*(-1.65)	0.0321(0.82)	0.0122(0.40)
Structural factors			
Quality of services* (x_{14})	-0.1524**(-2.58)	0.2481***(3.61)	-0.0956(-1.64)
Coverage of service* (x_{15})	0.0017(0.09)	0.0626**(2.29)	-0.0643***(-2.78)
Other factors			
Accessibility* (x_{16})	-0.0511(-1.32)	0.1393***(2.60)	-0.0882**(-2.00)
Awareness* (x_{17})	0.0082(0.28)	-0.0113(-0.27)	0.0030(0.10)
Diagnostic Test			
Number of observations LR chi2(17)	400		
Prob > chi2	0.000		
Pseudo R2	0.1157		
Log likelihood	-432.32		

***,** & * indicates significance levels at 1%, 5% & 10% respectively

Z-values are in the Parentheses

(*) dF/dx is for discrete change of dummy variable from 0 to 1 Source:
Field Survey, 2015

From the result of the Table 4.7 there was marginal effect of 0.0754 between household‟s gender and the subscription to property micro insurance scheme relative to education at a statistical significance level of 5%. This therefore indicates that females have greater probability of purchasing property micro insurance products relative to education. In addition to this study, many researchers appear to demonstrate lower risk tolerance by women than men. This finding is consistent with the finding of the study of Giesbert (2010) who found positive relationship between household‟s demand for micro life insurance and the gender. The educational levels of households have negative marginal effect of 0.0185 on their purchase of property micro insurance products relative to educational micro insurance products at a statistical significance level of 5%. This therefore indicates that households with lower level of education have greater probability of subscribing to property micro insurance products relative educational micro insurance schemes. This result is inconsistent with the finding of Bendig and Arun (2011) who in their study found positive relationship between household‟s demand for micro insurance products and their educational level. A higher level of education is expected to be positively related with the demand for any type of micro insurance product, as it may not only enhance household‟s capacity to comprehend the benefits of risk management and savings, but as well increase individual‟s risk aversion (Beck & Webb, 2002), but this situation is contrary to the current finding. However, the current result could be due to the fact that the usual consumers of micro insurance have far less education than the typical traditional insurance consumer

There was also positive marginal effect of 0.1003 between the price of property micro insurance products and their level of subscription by households relative to educational micro insurance products at a statistical significance level of 1%. This therefore indicates that a lower price of

property micro insurance products is associated with lesser probability of subscription to property micro insurance products relative to educational micro insurance products. This finding is not consistent with result of many existing literature including the study of Mobarak and Rosenzweig (2012) that revealed that a 50 percent price decline relative to the actuarial price increases the probability of take-up by 17.6 percentage points.

Furthermore, the risk aversion attitude of households have negative marginal effect of 0.4829 on households subscription to property micro insurance products relative to educational micro insurance products at a statistical significance level of 1%. This therefore indicates that households with lower risk aversion attitude have greater probability of subscribing to property micro insurance products relative to educational micro insurance products. Therefore, the negative effect in micro insurance may well relate to trust and/or experience or other factors. Understanding these factors could provide insight into the traditional market as well.

The financial literacy level of the surveyed households have negative marginal effect of 0.2507 on households subscription to property micro insurance products relative to educational micro insurance products at a statistical significance level of 1%. This therefore indicates that households with lower financial literacy levels have greater probability of subscribing to property micro insurance products relative to educational micro insurance products. This finding is inconsistent with the available literature. For instance, study of Cole et al. (2013) showed that micro insurance demand is higher among households with higher financial literacy. Gine et al. (2008) also revealed that inadequacy of scheme comprehension is the second most (after inadequate income) usually quoted factor for not subscribing to micro insurance.

Peer influence produced a negative marginal effect of 0.0443 on household"s subscription to property micro insurance products relative to educational micro insurance products at a statistical significance level of 10%. This therefore indicates that households that are more susceptible to peer influence have lower probability of subscribing property micro insurance products relative to educational micro insurance products. The quality of property micro insurance products have negative marginal effect of 0.1524 on households subscription to property micro insurance products relative to educational micro insurance products at a statistical significance level of 5%. This therefore indicates that households that have lower perception about the quality of property micro insurance products have greater probability of subscribing to property micro insurance products relative to educational micro insurance products. This finding is not consistent with available literature. For example, the study of De Allegre et al. (2006) reported that household"s choice to take-up community-based insurance in rural West Africa is strictly related to the quality of the health centre.

The result of the Table 4.7 shows that there is negative marginal effect of 0.1283 between the gender of households and health micro insurance products relative to educational micro insurance products at a statistical significance level of 1%. This therefore indicates that male household heads have greater probability of subscribing to health micro insurance products relative to educational micro insurance products. This finding is not consistent with the result of the study of Giesbert (2010) and many other researchers who found positive relationship between household"s demand for micro life insurance and the gender. The age of the surveyed household heads have positive marginal effect of 0.0041 on their subscription of health micro insurance products relative to educational micro insurance products at a statistical significance level of 5%. This therefore

indicates that the aged household heads have greater probability of subscribing to health micro insurance products relative to educational micro insurance products. This study was also consistent with the studies of Chankova et al. (2008) and Ito and Kono (2010) that also showed positive relationship between household‟s demand for micro health insurance products and age. This result is explained by the fact that the aged are relatively more susceptible to diseases and sickness and hence would prefer to purchase health related micro insurance products relative educational micro insurance products. The premium or price of health micro insurance products have negative marginal effect of 0.1092 on households subscription to health micro insurance products relative to educational micro insurance products at a statistical significance level of 5%. This therefore indicates that a higher price of health micro insurance products is associated with lower household‟s subscription relative to health micro insurance products relative to educational micro insurance products. This finding is consistent with result of the study of Dercon et al. (2012) that found that reductions in price lead to significant effects on health insurance demand, with 20% discount vouchers leading to a 12 percentage point increase in probability of purchase, yielding a price elasticity of 0.6.

There is positive marginal effect of 0.4356 between the risk aversion attitude of household heads and their subscription to health micro insurance products relative to educational micro insurance products at a statistical significance level of 1%. This therefore indicates that households with greater risk aversion attitude have greater subscription to micro health insurance products relative to educational micro insurance products. The financial literacy levels of the households have marginal effect of 0.2356 on their subscription of health micro insurance products relative to educational micro insurance products at a statistical significance level of 1%. This therefore

indicates that the households with higher financial literacy have greater probability of subscribing to health micro insurance products relative to educational micro insurance products. This finding is consistent with the study of Cole et al. (2013) that showed that micro insurance demand is higher among households with higher financial literacy.

There is positive marginal effect of 0.2481 between the quality of the health micro insurance products and households subscription to health micro insurance products at a statistical significance level of 1%. This therefore indicates that any significant unit improvement in the quality of health micro insurance products is associated with 24.8% increase households subscription of health micro insurance products relative to educational micro insurance products. This further indicates that households that perceive health micro insurance products as quality have greater probability of subscribing to health micro insurance products relative to educational micro insurance products. Consistent with this finding, Dong et al. (2009) suggest that along with health needs and health demands, quality of care is essential element in insurance drop-out. Likewise, Nguyen and Knowles (2010) suggest that demand for health micro insurance in Vietnam increases meaningfully with the anticipated claims of micro insurance as measured by distance to and quality of a provincial hospital.

The coverage of health micro insurance products have positive marginal effect of 0.0626 on households subscription to health micro insurance products relative to educational micro insurance products at a statistical significance level of 5%. This therefore indicates that any significant unit improvement in the coverage of health micro insurance products is associated with 6% increase in the household‟s subscription to health micro insurance products relative to educational micro

insurance products. This therefore indicates that households that perceive the health micro insurance products to have higher coverage base have higher probability of subscribing to health micro insurance products relative to educational micro insurance products. Households accessibility of micro health insurance products have marginal effect of 0.1393 on households subscription of micro health insurance products relative to micro educational insurance at a statistical significance level of 1%. This therefore indicates that any significant unit improvement in the accessibility of households to micro health insurance products is associated with 13.9% increase in the household"s subscription to micro health insurance products relative to micro educational insurance. Therefore, households with more accessibility to micro health insurance products have higher probability of subscribing to health micro insurance products relative to educational micro insurance products. Nketiah (2009) in his study in Ghana also re-emphasised coverage and accessibility as critical factors positively influencing rural dwellers demand for micro insurance schemes like the national health insurance scheme.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

The generally summary of the study findings, the conclusion of the study and the possible policy and managerial recommendations are made in this chapter of the study.

5.1 Summary of findings

The study sought to investigate household determinants for micro insurance schemes in the Kumasi metropolis through: (1) the identification of the determinants of household''s demand for micro insurance products; and (2) determine the level of household''s demand for micro insurance products. With regard to these earmarked objectives, the findings are discussed in subsections below.

5.1.1 Level of household's demand for micro insurance products

The proportion of the surveyed households in the Kumasi metropolis with numerous micro insurance schemes is 77%. The households have greater demand for health micro insurance schemes. The greater proportion of the low income earners and middle income earners demand micro health insurance schemes whereas the high income earners have subscribed to more than one micro insurance scheme. Some of the major micro insurance schemes the high income earners have subscribed include property, health, life and education.

The surveyed households predominantly receive information on micro insurance schemes from radio and TV, micro insurance agents and family and friends. The subscribers of the micro

insurance schemes obtained information about the schemes from micro insurance agents whereas the non-subscribers of the products received micro insurance schemes from friends and family.

5.1.2 Household's knowledge, awareness and perception about micro insurance schemes The level of knowledge of the micro insured households was relatively higher than the noninsured. The micro insured households were more relatively aware that subscription requires regular payment of specific amount of premium to the service provider. The micro insured were aware that avenues exist for subscribers to get money back in the absence of claims. The micro insured also deemed it essential to purchase micro insurance irrespective of their susceptibility to accidents. However, both the micro insured households and non-insured perceived the services provided by the service providers to below premium paid.

Both the micro insured households and non-insured households perceived micro insurance premiums to be relatively too high comparing it to the received micro insurance services. The surveyed household fairly agreed that it is relatively difficult in claiming benefits since the claiming process are too bureaucratic. The surveyed households also do not perceive micro insurance schemes to be meant for only the rich. Furthermore, the micro insured were relatively aware about many or varying forms of micro insurance schemes in the Kumasi metropolis. The households have received suggestions on the need to purchase varying forms of micro insurance schemes.

5.1.3 Determinants household's demand for micro insurance products

Generally, the factors that were found to affect micro insurance scheme subscription positively were gender, age, income level, trust of service providers, risk aversion attitude of households, financial literacy, quality of service and accessibility of micro insurance schemes. However, employment status of households and the price or premium of micro insurance schemes was found to negatively affect household's subscription of micro insurance schemes.

On the other hand, the multinomial logistic regression result revealed that factors such as gender, education, price or premium, risk aversion, financial literacy, peer influence, quality of service, and accessibility were found to affect household's subscription to property micro insurance schemes relative to educational micro insurance schemes.

Health micro insurance schemes were also found to be affected by factors such as gender, age, price or premium, risk aversion attitude, financial literacy, quality of service, coverage of service and accessibility relative to educational micro insurance schemes.

5.2 Conclusion

The demand for micro insurance scheme is relatively high compare to previous periods. Currently, 77% of the surveyed households in the Kumasi metropolis have subscribed to various forms of micro insurance schemes in the Kumasi metropolis. The micro insurance product predominantly purchased by the majority of the households in the Kumasi metropolis was the micro health insurance scheme. This health micro insurance scheme is predominantly purchased by the low and middle income earners in the Kumasi metropolis. The other forms of micro insurance schemes

such as property, life and education are predominantly purchased by the high income households in the Kumasi metropolis. The information about the micro insurance schemes was predominantly received by the households in the Kumasi metropolis from micro insurance agents and family and friends. The micro insured often received such information on micro insurance schemes from micro insurance agents whereas the non-insured households often receive such information from family members and friends.

The purchasing attitude of the micro insured could be attributed to their relatively higher knowledge on micro insurance schemes relative to their non-insured counterparts. The micro insured households relatively have greater knowledge in areas such as the regular payment of premium and the need for micro insurance for all households irrespective of their level of their level of susceptibility to accidents. The micro insured households were also relatively aware about micro insurance schemes compare to their non-insured households. The perception of the households of micro insurance schemes as too expensive, difficult in claiming benefits and the bureaucratic nature of the claiming process negatively influences their desire to purchase micro insurance schemes.

Furthermore, some of the major socio economic factors found to generally affect household"s subscription to micro insurance schemes in the Kumasi metropolis were gender, age, and the employment of the households. The socio cultural and structural factors also found to generally affect household"s subscription of micro insurance schemes in the Kumasi metropolis included price or premium, income level of the households, trust in the service providers, financial literacy of households, the quality of the services provided by the service providers, the coverage of the

micro insurance scheme, and the accessibility of the scheme to households. The factors also found to influence household"s subscription to property micro insurance schemes relative to micro educational insurance schemes include gender, education, price, risk aversion, financial literacy, peer influence and the quality of the provided service. The factors also found to affect household"s subscription of micro health insurance schemes relative to micro educational insurance schemes included gender, age, price, risk aversion attitude of households, financial literacy, quality of service, coverage of scheme and the accessibility of the scheme.

5.3 Recommendations

Based on the summary of findings and conclusions made in this chapter of the study, imperative general recommendations that could enhance household"s demand for micro insurance scheme in Kumasi and Ghana as whole are made.

5.3.1 Advertisement of micro insurance schemes

The micro insured and non-insured predominantly receive information about micro insurance schemes from micro insurance agents and friends and family. This invariably implies that the micro insurance service providers rarely provide information on micro insurance schemes through radio and television and newspapers. The advertisement of micro insurance products through these additional medium could further increase households demand for micro insurance schemes in the Kumasi metropolis and Ghana as a whole. Such advertisement should also carry messages that could eradicate the negative perception of the micro non-insured households about micro insurance schemes through the enhancement of the knowledge of households about micro insurance schemes.

5.3.2 Premium or price of micro insurance scheme should be lowered

The price or premium of micro insurance schemes should be adjusted to more affordable levels to increase the level of household's subscription of micro insurance schemes. Moreover, micro insurance schemes are price elastic and hence any possible or adjustable lowering of premium or price to affordable level could increase quantity demand by more than proportionately and hence result to greater increase in total revenues to the service providers.

5.3.3 Quality of micro insurance schemes should be improved

Generally, the surveyed households perceive the services provided by micro insurance providers as lesser than premiums paid. Therefore, for such perception to be eradicated there is the need for the service providers to improve the micro insurance services provided to households in Ghana. many households further perceive the process of claiming the benefits of micro insurance schemes as too difficult and bureaucratic and so improvement in the benefit claiming process could improve the desire of the households to purchase micro insurance schemes.

5.3.4 Micro insurance schemes should be made accessible

The accessibility of micro insurance schemes was found to positively influence household's subscription to micro insurance schemes and so any possible measures to improve micro insurance accessibility would increase household's level of subscription. The long queues and the bureaucratic registration process of micro health insurance schemes often discourages households subscription and hence any possible measures to improve this process could further enhance household subscription to micro health insurance schemes.

5.4 Limitations and suggested areas for further studies

Considering the significance of the current study, there are still enormous limitations to the study. To begin with, the current study is limited in scope in terms of geography and thematic areas. Geographically, the study was limited to four selected communities within each income category in the Kumasi metropolis which generally limits the generalizability of the current study. Therefore further studies in this area could further enhance the reliability and generalizability of the findings through the inclusion of other communities in other parts of Ghana. Furthermore, the multinomial regression was limited to only three micro insurance scheme and so further studies could increase the number of micro insurance schemes in the multinomial regression model. Further studies could also concentrate on identifying the determinants of the demand for micro insurance scheme for a specific and defined income category. For instance, such studies could identify the factors influencing low income earners demand for micro insurance schemes.

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APPENDIX

QUESTIONNAIRE

HEADS OF HOUSEHOLDS

Dear Respondent,

I am an MSc student of KNUST undertaking a study on the determinants of the demand for Micro insurance In the Kumasi Metropolis. This study forms part of the requirement for the programme of Master of Science Economics in the Department of KNUST. Please, read each question carefully before responding, and then circle or tick the appropriate answer in the designated space. Please answer to the best of your ability. You are rest assured that the study is for only academic purposes; all and every information provided will therefore be treated with the utmost confidentiality. Thank you for your help.

Socio Demographic Characteristics 1.
Gender:
Male [ ] Female [ ]

2. Age of respondent: ……………………………………..

i. Age group of respondent

16-20 years [ ] 21-30 years [ ] 31-40 years [ ] 41-50 years [ ] 51 years + [ ]

3. Marital status

Married [ ] Single [ ] Divorced [ ] Widowed [ ] Others ………………

4. Household size: ……………………………………………….

5. Employment status

Employed [ ] unemployed [ ]

6. Monthly income

Below GH¢200 [ ] GH¢200-GH¢500 [ ] GH¢501-GH¢1,000 [ ] More than GH¢1,000 [ ]

7. What is your level of education?

None [ ] Basic [ ] SHS [ ] Teacher training/Polytechnic [ ]

Tertiary [ ] Others(Please specify)………………………

8. Religion

Islamic [ ] Christianity [ ] others [ ]

Demand for micro insurance products

9.   Have you currently subscribed to any form of micro insurance scheme? Yes [ ] No [ ]

10. If yes, what form of insurance did you subscribe?

Life/Funeral   [ ]
Property   [ ]
Health   [ ]
Education   [ ]
Others (Please specify)………………………………………………..

11. What is your source of information/awareness about micro insurance scheme?

Newspaper   [ ]
Radio & TV   [ ]
Internet   [ ]
Micro insurance agents   [ ]
Family & Friends   [ ]

Knowledge, Awareness and Perception of Households about Micro-Insurance

12. Please indicate your level of agreement to the underlisted statements by choosing from a scale of 1 (strongly disagree) to 5 (strongly agree). (1-strongly disagree, 2-disagree, 3-fairly agree, 4-agree and 5-strongly agree)

Statement	1	2	3	4	5
Perception about micro insurance schemes					
Micro insurance premiums are too high					
It is difficult in claiming benefits from micro insurance products or schemes					
The process of claiming micro insurance benefits are too bureaucratic					
I don"t like micro insurance because I believe is for only the rich					
I don"t believe claims of micro insurance schemes would be paid					
Knowledge about micro insurance schemes					
Micro insurance schemes are free					
Micro insurance subscribers are required to pay premium					
There is no need to pay regular premium for micro insurance products					
Micro insurers get money back if no claim is made					
I don"t need insurance because I am not susceptible to accidents					
Services rendered is often below premiums paid					
Insurers contribute specific amount					
Awareness about Micro Insurance scheme					
I am unaware about any form of micro insurance					
No one has ever suggested to me any form of micro insurance					

Determinants of Micro-Insurance Subscription

13. Please indicate your level of agreement to the underlisted statements to explain your reasons for subscribing or not subscribing to any form of micro insurance product by ticking yes or no

Statement	Yes	No
The price of micro insurance is too high		
I am not financially literate enough to understand micro insurance schemes		
I feel less exposed to risk to purchase micro insurance		
I don"t trust the micro insurance providers		
I was influenced by friends and relatives to purchase the product		
Micro insurance products are not accessible		
Coverage of services is too narrow		
I am not aware of any form of micro insurance products		
I don"t have much Knowledge about micro insurance schemes		
The quality of services provided under micro insurance schemes are too poor		

KNUST