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RESEARCH ARTICLE

THE IMPACT OF HEALTH INSURANCE ON EMPLOYEES PRODUCTIVITY IN AN ORGANIZATION IN KWARA STATE, NIGERIA

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ABSTRACT

This study assessed the impact of health insurance on employees productivity, using Nigerian Bottling Company Plc. as the case study. The study based its analysis on the premise that risk and uncertainty are the major elements of care. The study makes use of primary data that was sourced through a well-structured questionnaire. A total of one hundred and four (104) questionnaires were administered to the selected sample from a population of (208). The person product moment correlation coefficient was adopted for the data analysis. This study concludes that there is a significant relationship between health insurance and employee's productivity. ($r = .743^{**}$, $N=104$, $P < .01$) as revealed by the result of the analysis; there exists a negative relationship between risk and uncertainty and health insurance demand. Also there exists a strong positive relationship between product accessibility and health insurance demand. It was recommended, based on the conclusion of the findings, that every individual in an organization must have a defined and accessible health insurance scheme. This is expected to alleviate the problem of risk and uncertainty that is associated with health care delivery.

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INTRODUCTION

Health is undoubtedly one of the most important assets a human being has. It permits us to fully develop our capacities. Good health is necessary for healthy living. Even billionaires cannot enjoy life when their health is poor. Good health is also required for economic and social development (WHO, 2000). Good health enhance workers effectiveness and the productivity of an individual through increase in physical and mental capacities which are necessary for economic growth and development (Ogunjuyigbe and Laisu, 2010). It is posit that, all things being equal, healthier workers are more likely to be able to work longer, be generally more productive than their relatively less healthy counterparts, thus able to secure higher earnings than diseased ridden workers (Bakare and Olubokun, 2011).

Babatude (2012) posited that poor health infrastructure, illness and diseases shorten the working lives of people thereby reducing their life time earnings. At the same time, poor health has another critical impact: it causes poverty, in that large health expenditures can bankrupt families. The health standard of the population is a widespread societal objective so it calls for improvement. A good health standard is the cornerstone of good living standard. Though living standards, health standard and productivity are distinct concepts, the three are very much related. The correlation between productivity and health across countries and over time is quite high, indicating the importance of productivity growth rates as a result of improvement in country's health and living standards (Harris 1999). There is increasing awareness that human capital is a key factor. Traditionally, human capital has been interpreted as education and skills. Recently, however, increasing attention has been given to health as a form of human capital. Due to the fact that risk and uncertainty remain the significant elements in health

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care, and that virtually all the special characteristics of health care industry emanated from the prevalence of uncertainty, health insurance is inevitably necessary. Health insurance is economically significant because it provides funds that are not necessarily available in the period of sickness and allows individuals to purchase more health care and other goods and services in the event of illness than they would without health insurance (Cutler and Zeckhauser, 2000). It is from the offshoot that this study is set to investigate the impact of health insurance on employee's productivity.

Statement of research problem

Recent studies have shown that health insurance can be used to mitigate impoverishing effects of large out-of-pocket health expenditure. Isabella (2013) said that "A Large out-of-pocket payment is known to reduce consumption expenditure on other goods and services and thus pushing households into poverty through catastrophic expenditure." Over the last few years there has been research on the macroeconomic and microeconomic relationship between health and productivity. There are quite a number of strategies that the private sector have employed to promote the health of individuals and population, as well as several measures of health to assess the effectiveness of these strategies. Some of the strategies are employed with the express intention of improving human capital and, in turn, productivity. Others have improving health as a specific goal. The question that is likely to occur is, would an improvement in the health status of workers pay off in terms of higher aggregate productivity? If it does, what then is the implication of health insurance on the labor force productivity?

Research questions

The following questions will be answered in the course of the study:

- i. What is the relationship between health insurance and employee's productivity?
- ii. How does risk, uncertainty affect health insurance demand?
- iii. How does product accessibility affect health insurance demand?

Objectives of the study

The main objective of the study is to examine the impact of health insurance on employee's productivity with special reference to Nigerian Bottling Company Plc while the specific objectives are to:

- i. Find out the relationship between health insurance and employees productivity demand.
- ii. Examine the relationship between risk, uncertainty and health insurance.
- iii. Examine the relationship between product accessibility and health insurance demand.

Statement of hypotheses

In line with the above formulated objectives, the study has the following research hypotheses:

Ho1: There is no significant relationship between health insurance and employee's productivity.

Ho2: There is no significant relationship between risk, uncertainty and health insurance demand.

Ho3: There is no significant relationship between product accessibility and health insurance demand.

LITERATURE REVIEW

Conceptual Overview of Health Insurance

Health Insurance today is seen as one of the financial protection for good health, assured rest of mind, stress free thinking, reduction in health cost and financial support in a state of none. Health insurance is one of the sources of funds for financing health care which is been associated with lower out-of-pocket expenditures. People who are insured are protected against high and uncertain medical expenses and are more likely to receive needed and appropriate health care. In addition, having health insurance is associated with improved health outcomes and lower mortality, thus employees with health insurance are more likely to be productive workers (Kansra and Pathania, 2012). Health Insurance, as explained by Schneider (2004) is a risk sharing mechanism that helps to lower the out-of-pocket price and/or cover the cost of medical treatment for medical conditions that arise. It provides a policy that covers a variety of diagnostics to identify the disease, illness or injury and offers the best course of treatment to return affected individuals to the state of health they were in before suffering the disease, illness or injury.

The major sources of finance for the health sector in Nigeria are the three tiers of government (Federal, State and Local Government), public general revenue accumulated through various forms of taxation, the health insurance institutions (private and public), the private sector (firm and households), donors and mutual health organizations. The various ways in which health insurance can be subscribed to are through the social insurance such as the National Health Insurance Scheme (NHIS), Private Health Insurance (PHI) and Community Based Health Insurance scheme. At the aggregate level, Bloom and Canning (2000) identified four pathways by which health can affect productivity: a healthy labour force may be more productive because workers have more physical and mental energy and are absent from work less often; individuals with a longer life expectancy may choose to invest more in education and receive greater returns from their investments; with longer life expectancy, individuals may be motivated to save more for retirement, resulting in a greater accumulation of physical capital; and improvement in the survival and health of young children may provide incentives for reduced fertility and may result in an increase in labour force participation — which may, in turn, result in increased per capita income if these individuals are accommodated by the labour market through higher productivity.

Conceptual Framework of Health Insurance and Productivity

(A) Health Insurance: Health Insurance, as explained by Schneider (2004) is a risk sharing mechanism that helps to

lower the out-of-pocket price and/or cover the cost of medical treatment for medical conditions that arise. It provides a policy that covers a variety of diagnostics to identify the disease, illness or injury and offers the best course of treatment to return affected individuals to the state of health they were in before suffering the disease, illness or injury. Health insurance involves the pooling of resources or funds in order to accumulate health assets on behalf of a population thus spreading and transferring financial and health risks among the population such that financial resources are no longer tied to a particular contributor. Health financing according to (WHO, 2012) is considered the collection of funds from various sources (such as; government, households, businesses, and donors), pooling them to share financial risk across larger population groups and using them to pay for services from public and private health care providers.

(B) Productivity: Is the amount of goods and services that a worker produces in a given amount of time. A measure of the efficiency of a person, machine, factory, system, etc., in converting inputs into useful outputs. Productivity is computed by dividing average output per period by the total costs incurred or resources (capital, energy, material, personnel) consumed in that period. Productivity is a critical determinant of cost efficiency. There is no universal definition of the term, productivity. It has been defined by Economists as the ratio of output to input in a given period of time. In other words, it is the amount of output produced by each unit of input. Business Managers, on the other hand, see productivity not only as a measure of efficiency, but also connotes effectiveness and performance of individual organizations (Anyanwu, 2004). For them, productivity would incorporate quality of output, workmanship, adherence to standards, absence of complaints, customer satisfaction, e.t.c (Udo-Aka, 1993). It is a measure of efficiency and is usually considered as output per person-hour. It can be expressed as the following ratio;

$$\text{Productivity} = \frac{\text{Real Output}}{\text{Input}}$$

(C) Accessibility: Is the degree to which a product, device, service, or environment is available to as many people as possible. Accessibility can be viewed as the "ability to access" and benefit from some system or entity. It also means creating an inclusive environment in ones work area that enables all employees to be successful in their chosen careers.

(D) Uncertainty: It is not surprising that we are inclined to reduce uncertainty given its negative impacts. Uncertainty is linked to increased stress, role ambiguity, job turnover, negative health effects and poor decision making. Uncertainty can lead to poor productivity and people often define their meaning and worth through their performance.

(E) Risk: Risk has seen by the Institute of Risk Management (2002) is a part of everyday life which concerns the combination of the probability and the consequences of an event happening. According to Harrington and Niehaus (2003), risk is used to describe any situation where there is uncertainty about what outcome will occur. Risk is believed according to the Health Belief Model to be all about thoughts, beliefs and

constructs. This idea was further elucidated pointing out that an individual's estimate of risk may be very different from the objective estimate. Objective risk is therefore explained by Ulleberg & Rundmo (1996) in Oltedal *et al.* (2004) in as the risk that exists independent of an individual's knowledge and worries of the source of the risk, though the source may vary in different cultures.

(F) Information to the identified target market

By identifying and knowing your customers, you can assess their needs and consider if your business concept will meet those needs. Research will assist you to determine the customer group most likely to purchase and use your product or service. This group will become your target market. Your target market may be businesses or consumers. By identifying your target market, its demographics, and its buying and spending habits, you will be able to focus your marketing and advertising efforts more effectively. Whether your business is business to business or business to consumer, you will want to look for demographic and psychographic information.

Theoretical Framework

At the aggregate level, Bloom and Canning (2000) identified four pathways by which health can affect productivity: a healthy labour force may be more productive because workers have more physical and mental energy and are absent from work less often; individuals with a longer life expectancy may choose to invest more in education and receive greater returns from their investments; with longer life expectancy, individuals may be motivated to save more for retirement, resulting in a greater accumulation of physical capital; and improvement in the survival and health of young children may provide incentives for reduced fertility and may result in an increase in labour force participation — which may, in turn, result in increased per capita income if these individuals are accommodated by the labour market through higher productivity. Theory of Expected Utility Maximization: One of the theory which serves as a foundation for the researcher's work is the theory of expected utility maximization which Isabella *et al.* (2013) adopted in their research work that individuals will choose between alternatives depending upon which offers the highest total expected utility (satisfaction derived from consumption). In the context of health insurance, there are two possible states of the world: the healthy state where one is not ill and the unfortunate state which can be described as the event of illness or fear of illness serious enough to require an individual or family to pay the full cost of necessary and efficient medical care solely out of current income or wealth. Health insurance can only be utilized in the case of illness. As a result, the utility of any form of health insurance in case of an occurrence of this state (illness) is greater than in the case of well-being.

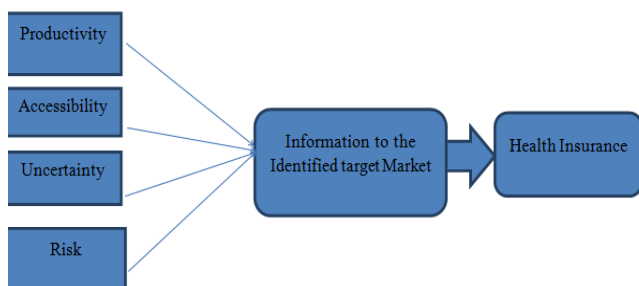
Prospect Theory: Prospect theory is another theory of decision making under conditions of risk. It was developed by Kahneman and Tversky (1979) from empirical studies that show that consumers prefer certain gains to uncertain ones of the expected magnitude, but that they also prefer uncertain losses to certain ones of the same expected magnitude (Nyman,

2003). According to this theory a person is risk averse if he prefers a certain prospect to any risky prospect with a given expected value. The theory assumed that decisions are made from reference points representing differing income or wealth levels. The choices that matter are with regard to changes in income – gains or losses – made relative to these reference income levels, rather than the levels themselves. Gains from a given reference point are assumed to diminish in value as the gain increases and losses from a reference point diminish in (negative) value as the loss increases. Also, the marginal gain in value from any given gain in income is less than the absolute marginal loss in value for a loss of income of the same size. The decision to purchase insurance in prospect theory is therefore based on the fact that consumers actually prefer an uncertain loss to a certain loss of the same expected magnitude.

Empirical Framework

Besley and Hall (1999) find that as waiting lists in the U.K. National Health Service increase, demand for private health insurance also increases. And that perceived service quality, measured in terms of waiting times and the hotel aspects of health services, are important factors motivating the purchase of health insurance. Harmon and Nolan (2001) find similar results in Ireland, where insurance purchase is motivated by a demand for service quality, timely access, as well as reductions in out-of-pocket expenditures. These studies suggest that health insurance purchase is driven more by a taste for quality than by aversion to risk. Bolhaar, et al. (2008) in their empirical analyses of dynamic panel data models for supplementary private health insurance purchase and utilization of health care find that a positive coefficient is associated with a higher probability of insurance purchase. Their results show differences between ordinary least square (OLS) estimates and panel data estimates. Their OLS estimates are almost always significant and covariate effects are relatively large.

Analytical Framework



Source: Author’s Compilation 2015

METHODOLOGY

This research study used primary data, which were collected from the personnel of Nigerian Bottling Company Plc, Ilorin, Kwara State, on a simple random basis. The primary data was collected by the researcher through the use of questionnaire. The sample selected for this study comprises of personnel of Nigerian Bottling Company Ilorin, Kwara State. It is noteworthy that all the workers of the company cannot be reached at a time therefore, a combination of probability and non probability sampling procedures was employed. A total of 104 questionnaires were administered in all from a population

of 208 as at September, 2014. The questionnaire was designed in such a way that it answered the research questions. The questionnaire was administered to the respondents for completion and returned in useable form to the researcher for the purpose of the study. The responses in the research instrument were ranked using the 5 point Likert Scale, i.e. Strongly Agree, Agree, Indifference, Disagree and Strongly Disagree and will be score 5, 4, 3, 2, and 1 respectively. Pre-test/post reliability approach was used to test for reliability of the research instrument. Further, the data were subjected to Cronbach Alpha test. The Pearson’s Product Moment Correlation Coefficient (PPMCC) and the Ordinary Least Square (OLS) method of regression analysis were adopted in the data analysis.

RESULTS OF THE ANALYSIS

This section deals essentially with the statistical testing of the hypotheses formulated for this study and also interpreting the result making use of Pearson Product Moment Correlation Coefficient.

Hypothesis I: There is a significant relationship between health insurance and employee’s productivity.”

Variable	Mean	Std. Dev.	N	R	P	Remark
Health insurance	3.833974	.5892416	104	.743**	.000	Sig
Employee’s productivity	4.54447	265833				

**Sig. at .01 levels

In order to test this hypothesis, the Pearson Product Moment Correlation was used. The above table show that the result of the correlation analysis between health insurance and employee’s productivity ($r = .743^{**}$, $N=104$, $P < .01$), the result is significant. The implication of this result is that a 1% sense of belonging of employee in health insurance brings about a 74.3% enhancement in employee’s productivity. Therefore the hypothesis is accepted. Hence, there exists a strong positive relationship between health insurance and workers’ productivity. That is when an employee feels secured in terms of health insurance package, there is inevitable enhancement in his productivity. It is therefore concluded, in the study, that health insurance influence employee’s productivity.

Hypothesis II: There is significant relationship between risk and uncertainty and health insurance demand”

Variable	Mean	Std. Dev.	N	R	P	Remark
Risk and uncertainty	3.7115	.76066	104	-.609**	.000	Sig
Health insurance demand	3.833974	.5892416				

**Sig. at .01 levels

The result of the correlation analysis between risk and uncertainty and health insurance demand ($r = -.609^{**}$, $N=104$, $P < .01$) is significant and the hypothesis is therefore accepted. This analysis is necessary because, risk and uncertainty are an element in health care delivery, and there is need to investigate how they are related to health insurance demand. Alternatively,

there exists a negative relationship between risk and uncertainty and health insurance demand. This means, the less risky and more certain a health insurance scheme is, the more the employee demand for it.

Hypothesis III: There is significant relationship between product accessibility and health insurance demand.”

Variable	Mean	STD. DEV.	N	R	P	Remark
Product accessibility	4.080128	.6943992	104	.836**	.000	SIG
Health insurance demand	3.833974	.5892416				

**Sig. at .01 levels

The Pearson Product Moment Correlation was also used to test for this hypothesis. The above table shows that the result of the correlation analysis between product accessibility and health insurance demand and the result is significant ($r = .836^{**}$, $N=104$, $P < .01$) at 1% level of significance. Therefore the hypothesis is accepted.

Hence, there exists a strong positive relationship between product accessibility and health insurance demand. That is, the more accessible and health insurance scheme is, the more the demand for it. It is therefore concluded, in the study, that there is significant relationship between product accessibility and health insurance demand.

RESULTS AND DISCUSSION

The importance of health on workers' productivity cannot be over emphasized. Health enhances workers effectiveness and the productivity of an individual through increase in physical and mental capacities which are necessary for economic growth and development (Ogunjuyigbe and Laisu, 2010). Grossman's (2000) model for health demand also provides insights into the relationship among health, human capital and consumption at the individual level, as well as a framework for modeling human capital accumulation and its relationship to productivity at the micro and macro levels. This means a healthy employee tends to perform better than unhealthy one. Risk and uncertainty are undoubtedly significant elements in health care services. Due to the degree of uncertainty of health, risk-averse individuals guard against the potential of requiring a substantial amount of health care by pooling risks with others in the population. This brings about, in the words of (Soyibo and Lawanson, 2005), Social insurance scheme that was designed to ensure fair financing of health care costs through pooling and judicious utilization of financial resources and also to provide financial risk protections and cost-burden-sharing for people against high cost of health care services, through various pre-payments programmes prior to illness. Thus, individuals with low expectations about their future health status may have an incentive to select insurance coverage. It is further assumed that under uncertainty, risk-averse individuals demand risk-bearing goods, such as health insurance, to safeguard their income against possible shocks. Health insurance is assumed to be a choice variable because it is a source of utility. Individuals value health, with health care as a

means to producing health. Therefore, individuals first choose their insurance and then choose their health care utilization when ill. The related uncertainty under this scenario is with respect to future health status at the time the insurance policy is chosen. There exists a strong positive relationship between health insurance and workers' productivity. That is, when an employee feels secured in terms of health insurance package, there is inevitable enhancement in his productivity.

It is therefore concluded, in the study, that health insurance influence employee's productivity. Risk and uncertainty are an element in health care delivery, and there is need to investigate how they are related to health insurance demand. Alternatively, there exists a negative relationship between risk and uncertainty and health insurance demand. This means, the less risky and more certain a health insurance scheme is, the more the employees demand for it and vice versa. There exists a strong positive relationship between product accessibility and health insurance demand. That is, the more accessible and health insurance scheme is, the more the demand for it. It is therefore concluded, in the study, that there is a significant relationship between product accessibility and health insurance demand.

Conclusion and Recommendation

Productivity being the measure of how specified resources are managed to accomplish timely objectives as stated in terms of quantity and quality. And that it may also be defined as an index that measures output (goods and services) relative to the input (labor, materials, energy, etc., used to produce the output) is a function of employee's well-being. This is no doubt that Bloom and Canning (2000) identify that a healthy labour force may be more productive because workers have more physical and mental energy and are absent from work less often. It is in this line of thought that this is so that due to the degree of risk and uncertainty of health, risk-averse individuals guard against the potential of requiring a substantial amount of health care by pooling risks with others. Health insurance is assumed to be a choice variable because it is a source of utility.

Individuals value health insurance, with health care as a means to higher productivity. Therefore, individuals first choose their insurance and then choose their health care utilization when ill. The related uncertainty under this scenario is with respect to future health status at the time the insurance policy is chosen. This study had been able to conclude that there is significant impact of risk ($\beta = .664$, $P < .01$), and uncertainty ($\beta = .524$, $P < .01$) on health insurance demand this from the result of the analysis; and that there is a significant relationship between health insurance and employee's productivity ($r = .794^{**}$, $N=120$, $P < .01$). The study recommended that every individual in an organization must have a defined health insurance scheme. This is expected to alleviate the problem of risk and uncertainty that is associated with health care delivery. Social Health Insurance providers are expected to provide more or less uniform quality of services and have more or less uniform capacity to deliver them. Information sharing mechanism of the organization must be strengthened in an attempt to fully utilize the available social health insurance scheme. This will bring about cordial relationship between the employees and result in higher productivity an important role of government is to

formulate a policy that clearly links the initiation of SHI with other risk-pooling mechanisms and other dimensions of health systems development.

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