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Health Data: New Opportunities for Insurers in Bangladesh

(The Importance of Coding and Standardization of Treatment Protocols)

Dr. George E Thomas

Health insurance is gathering popularity in Bangladesh over the last decade, with more and more insurers offering Health insurance and coming up with more insurance products. While the supply side is thus getting stronger, the pandemic situation has created better customer awareness of the difficulties of not having insurance protection. This, in turn, has improved the receptivity of the market to Health insurance, and arguably increased the demand for Health insurance.

Data for making Business Plans: As Health insurance keeps growing, insurers face more challenges. Insurers need to know the aspirations of the market, the ground-level realities, design better products, determine risk commensurate premiums, revise the standards for customer service, improve the speed and quality of processing claims, prevent fraud and ensure that the company's reputation is not compromised while dealing with healthcare, a raw nerve of the society. Insurers would also have to augment their claims handling capabilities by building internal competencies or by outsourcing claims processing to Health Third Party Administrators. They have to create systems for cashless settlements directly with hospitals so that the insured do not have to make payments at hospitals at the time of admission.

This situation has made it imperative for insurers to increase their domain knowledge, as well as various skills. While insurance knowledge can be acquired from around the globe, to know exactly how insurance works in Bangladesh needs careful analysis of market data pertaining to various demographic segments and understanding the specialties of claims in diverse contexts.

Data Analysis: Insurers need quality data for analytical purposes, and need to slice, dice and view data from various angles, some of which are discussed below:

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Estimating the probability of losses: The frequency of loss causing events and the severity with which such events can occur, are matters of paramount concern that need analysis. Some insured may be less or more susceptible to certain illnesses due to factors related to gender, age, habits, heredity, occupation, lifestyle, or attitude of the person.

Computing the probable costs and expenses: The costs of claims, procurement and operations, which go into the pricing of the product need to be estimated with some degree of precision. In other words, data is required to decide the premiums based on medical costs, distribution costs, administrative costs, and a margin of profits. Data can also help in reducing these costs, and making health insurance more affordable. This information can be vital for making insurance companies and their business models sustainable.

Dealing with multiple insured: Insurers need to establish systems to handle the challenges of dealing with a large number of insured, challenges in underwriting the proposals, compete with other insurers, market pressures and distribution channels. Insurers would also need to fight fraud and create early warning systems to prevent fraud.

Dealing with multiple complex claims: Insurers need to create efficient and transparent claims-settlement systems within. They need to process large volumes of small value claims judiciously and cost efficiently with due accuracy and speed ensuring contract certainty and timely payments to customers/ hospitals.

Dealing with service providers: Insurers need to ensure that hospitals follow recognized treatment protocols and provide personalised care to the insured, so that customer expectations are satisfied. They need the service providers to be dependable, and capable of catering to diverse healthcare needs on a cashless basis. Insurers may have to prevent situations of provider-induced demand, as well as the growing tendency of doing business with disease. Insurers have to appreciate that modern day hospitals that invest in land, building and infrastructure, use the latest technology, and pay healthcare professionals competitive salaries, would need returns on their investments for survival.

Need for Personal and Demographic Data: Individual insurers need to compile data based on their appetite for internal research. The ‘National Committee on Vital and Health Statistics’ (NCVHS) and multiple states of the USA recognize the need for collecting Personal Data elements like (1) Birth Name, (2) Date of Birth, (3) Place of Birth, (4) Gender and (5) Mother's First Name. The other bits of information collected by most insurers are also given below so that the need for details is appreciated by insurance industry in Bangladesh.

Data Head		Data Details
(6)	Race and Ethnicity	(a) American Indian/Eskimo/Aleut, (b) Asian or Pacific Islander, (c) Black, (d) White, (e) Hispanic Origin (f) Other and (g) unknown/not stated.
(7)	Residence	Full address and ZIP code
(8)	Marital Status	(a) Married and living together, (b) Married and not living together, (c) Never married, (d) Widowed and not remarried, (e) Divorced and not remarried, (f) Legally separated and (g) Unknown/not stated.
(9)	Living Arrangement	(a) Alone, (b) With spouse, (c) With significant other/ life partner, (d) With children, (e) With parent or guardian, (f) With relatives other than spouse, children, or parents, (g) With nonrelatives and (h) Unknown/not stated.
(10)	Residential Arrangement	(a) Own home or apartment, (b) Residence where health, disability, or aging related services or supervision are available, (c) Other residential settings where no services are provided, (d) Nursing home or other health facility, (e) Other institutional settings like prison, (f) Homeless or homeless shelter and (g) Unknown/ not stated.
(11)	Self-Reported Health Status	5 point scale - Excellent, Very Good, Good, Fair, or Poor (predictive of morbidity, mortality, and future health care) collected at first clinical visit and periodically updated, at least annually.
(12)	Functional Status	(a) Self-reported measures like limitations of activities of daily living (ADL), age-specific evaluation of activity limitations and (b) Clinical assessments such as the International Classification of Impairments, Disabilities and Handicaps (ICIDH) are done in cases of disabilities like mental illness or blindness, where self-reporting may not be sufficient.
(13)	Years of Schooling	The highest grade of schooling completed by the enrollee/ the mother's highest grade of schooling for children under the age of 18 is collected. The years of schooling is considered a proxy for the socioeconomic status (SES) and predictive of health status and health care use when seen with income particulars.
(14)	Relationship	Relationship of the Subscriber to the person eligible for entitlement (a) Self, (b) Spouse, (c) Child and (d) Other is also collected.
(15)	Current Occupation and Industry	The usual or longest held occupation and industry is considered useful to track occupational diseases as well as to define ones socioeconomic status in a better manner.
(16)	Medical/ Health Risk Factors	Other risk factors commonly collected include weight management, physical activity, smoking behaviour, alcohol use, drug addiction, routine medical check-up, high blood pressure, blood cholesterol, mammography, diabetes, pap smear, diet/ nutrition, colorectal cancer screening, health insurance coverage, HIV/AIDS, vaccination, injury (seat belt, bicycle helmet, smoke detectors), consumption of 5+ fruits and vegetables per day and access to health care.

The Indian market also recognizes the need for collection of personal and demographic details for analytical purposes, and mandates submission of such details to the Insurance Information Bureau (IIB), an extended arm of Insurance Regulatory and Development Authority of India (IRDAI).

Need for Medical Data, Classification and Coding: All stakeholders accept the need for compiling and analysing medical data. However, classification of medical data to analysable data by transforming verbal descriptions of medical diagnoses and procedures into universally acceptable code numbers is a challenge. Diagnosis Codes help in compiling data from health care records, transcription of physician's notes, laboratory results, radiologic results etc. for the purpose of tracking diseases, disorders and symptoms, and for measuring morbidity, mortality and other health conditions. Procedure Codes help in identifying medical procedures and specific health interventions. Pharmaceutical Codes are used to identify medications and Topographical Codes indicate specific locations in the body.

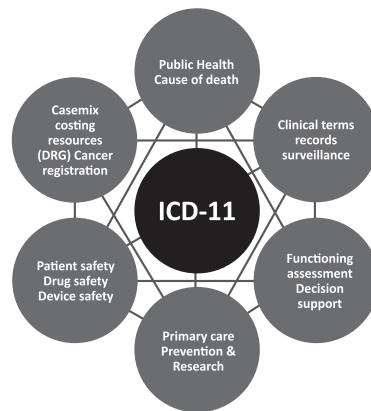
In general, Medical Classification systems help insurers conduct (a) various statistical analysis of diseases and therapeutic interventions, (b) measuring the safety, quality, and efficacy of medical care, (c) monitoring the utilization of resources analysis, (d) improving financial, clinical and administrative performance, (e) providing insured information on various treatment options along with their costs and probable outcomes, (f) recognizing and identifying abusive or fraudulent reimbursement practices and trends, (g) conducting healthcare research and clinical trials and participating in epidemiological studies, in addition to (h) reimbursement of insurance claims.

Ensuring Data Quality: Insurers need dependable data to prevent being misguided by erroneous findings from 'junk in - junk out' situations emanating from low quality data. Insurers need to define data at granular levels for quality control and making intelligent analyses. Thus, it is imperative for insurers to focus their attention on the quality of data. This would entail standardisation of terminology in every area of disease and treatment and defining every element of data. To achieve this, the insurance industry and healthcare industry in Bangladesh need to appreciate that they have to work together for their own growth as also for providing better value for the people of the country. This would also mean developing technical skills and precision in coding medical information.

Standards of Classification and Coding of Medical Data: There have been multiple efforts at standardisation of medical data across the world. Insurers have witnessed different waves of standardisation over the years, as various stakeholders were grappling with different parameters and different technologies.

World Health Organization (WHO) came up with International Classification of Diseases (ICD) as the standard diagnostic tool for analysing the general health situation, the incidence and prevalence of diseases and other health problems. WHO's 'Family of International Classifications and Terminologies'

(FIC) has three main classifications on basic parameters and international standards of health viz. (1) International Statistical Classification of Diseases and Related Health Problems, diagnoses, injuries, findings, and primary care (ICD); (2) International Classification of Functioning, Disability and Health (ICF) describing functional health status and social impact; and (3) International Classification of Health



Interventions for treatment, prevention and diagnostics: Medical, nursing, rehabilitation, laboratory, imaging, ultrasound, public health (ICHI). These reference Classifications serve as the global standards for health data, clinical documentation and statistical aggregation.

Main Purposes of ICD Codes: ICD helps in compiling health and vital records as easy to use codes. These medical classifications and codes helps in compiling data in a consistent manner across the globe, facilitate comparison of health related data across time spans. ICD Codes are used by (i) Governments to allocate resources, (ii) Researchers to collaborate across borders, (iii) Doctors to document their cases, (iv) Health providers in algorithms for decision support, (v) Hospitals to count the frequency of health problems, (vi) Laboratories to exchange investigative data, (vii) Insurance companies for billing purposes and (viii) International organizations to assess trends in public health. ICD has gone through various stages of revision and updation and the latest version from 2022 is ICD-11.

While ICD-9 had 6,969 codes and ICD-10 (effective from 1994) had 12,420 codes, the latest version ICD-11 (effective from January 2022) has around 17,000 unique codes and more than 120,000 codable terms, which allow more than 1.6 million code combinations. WHO states that ICD-11 is “entirely digital with a new user-friendly format and multilingual capabilities that reduce the chance of error.” WHO acknowledges that ICD-11 has been compiled and updated with inputs from over 90 countries and “unprecedented involvement of health-care providers, enabling evolution from a system imposed on clinicians into a truly enabling clinical classification and terminology database that serves a broad range of uses for recording and reporting statistics on health.”

Conclusion: In the present scenario, when the Health Insurance industry in Bangladesh is gathering importance, the time is ripe for the industry to take the full advantage of internationally acclaimed coding systems. The huge strides made in technology and health would make it easier for the country’s insurers to easily adapt to standardisation and coding. The use of scientific international standards and codes would help the Government in designing insurance schemes for social protection as well. While the insurers of Bangladesh and other stakeholders would benefit from the technology, the skill-sets would provide better employment opportunities to the new generation as well.

[Views expressed in this article are those of the author.]

Protection Gap in Bangladesh and the Micro Insurance Industry

Kazi Md. Mortuza Ali, ACII

Introduction

Bangladesh has been regarded as the Silicon Valley of pro-poor financial innovation, embracing and empowering people at the base of pyramid. Our innovation came mainly through bottom up experimentations.

We have defined the financial inclusion initiatives, as both access to and usage of appropriate, affordable, and accessible financial services. We have been pushing for financial inclusion as it supports social cohesion and empowerment. Our approach has been focused on a comprehensive framework.

The government has embraced sustainable growth agenda, aided by the central bank's financial inclusion initiatives for expansion of access to banking, insurance and financial services for all with the aim that "None should be left behind" and "prosperity for all, poverty for none".

Since Bangladesh's birth in 1971, poverty rate came down by more than 50 percentage points. Since then, life expectancy increased by 30 years, from low-mid 40s to over 70 years. Financial inclusion, together with cheaper health care and micro insurance solutions, improved human development indicators of Bangladesh.

Despite good performance in reducing consumption inequality, income and wealth inequality, health, education, and asset (land) prices remain high and calls for further strengthening of inclusion initiatives.

In order to achieve universal access to financial services our objectives have been to:

- Include the excluded or vulnerable groups and sectors, often exposed to income, health, wealth, and climate change shocks.

Director General, Bangladesh Institute for Professional Development (BIPD)

- Minimize marginalization and vulnerabilities amid Bangladesh' transitions.
- Leveraging technology for the reach and sustainability of financial inclusion initiatives.

Sustainable financial inclusion requires innovation. Trust and risk management are also essential for scaling up of any initiatives. For fostering innovation, we need to enhance financial literacy, consumer protection, and coordination among regulatory bodies. Innovation is required in products design, pricing, distribution channel and payment methods. In this paper we will discuss Bangladesh experience in micro insurance.

Today's Bangladesh is well ahead of most of the countries in gender parity. The global Gender Gap Index 2017, released by the World Economic Forum (WEF), showed that the country ranked 47th among 144 nations while the ranks of India and Pakistan were 108th and 143rd respectively. Country's performance in overall human development is also encouraging. It stands 139th among 188 countries in the UNDP Human Development Index 2016.

Bangladesh is now constructing a multipurpose bridge over the mighty river Padma. This is the most challenging infrastructure project in the history of projection. Based on the International Monetary Fund (IMF) estimate shows that Bangladesh, now 43rd economy in the world, will be 42nd this year in terms of nominal GDP (gross domestic product) while Pakistan will be 45th. Bangladesh is a much more inclusive nation now as it stands on the 36th position among 79 countries included in the Global Inclusive Development Index 2018 (WEF).

In 2015, Bangladesh became a Lower Middle Income Country form a Low-Income County as per parameters set by the World Bank. In March' 2018, Bangladesh formally fulfilled all three criteria to graduate from the Least Developed Country (LDC) status on the path to become a developing nation fully by 2024.

After the adoption of the 2030 sustainable development agenda, we aligned our march for development with our Seventh Five Year Plan based on the spirit of "leaving no one behind". Our targets for the future remain the same and they will be incorporated in the subsequent Five Year Plans.

Our first target is to eliminate poverty. The second one is to eliminate hunger. And the third one is to make nutritious food available to all. The challenge of leaving no one behind is most significant in rural areas. About 72 per cent of our population live in rural areas and 43 per cent are engaged as labour in agriculture sector that contributes 15 per cent to the country's gross domestic product (GDP). The rural non-farm sector accounts for 40 per cent of rural employment but earns more than 50 per cent of rural income. Hence, inclusive and sustainable rural transformation is key to reaching the goals of poverty elimination, hunger elimination and leaving no one behind. It is poised to achieve the Sustainable Development Goals (SDGs) well ahead of 2030. It is estimated that poverty will be eradicated altogether by 2024 and hunger by 2041.

Poverty is the probable outcome of deprivation of land and non-land asset, access to education, remunerative occupation and opportunities of diversified income sources. In Bangladesh the poor face crisis situation and suffer from damages in natural calamities very frequently. In alleviating poverty, major source seemed to be raising productivity. Distributive measures are though important to alleviate poverty are insufficient to eradicate it. Of course, equitable distribution has in-built impulse on raising productivity and accelerated growth.

Rural households of Bangladesh need productive capital resources and land for utilization of their surplus labor and work opportunities on self employment as well as wage employment which may enable them to generate increased earnings. A massive micro credit programme has, therefore, been felt and being implemented for the poor not only for productive employment but also to cope with natural or social catastrophe in order to protect them from downward mobility.

As micro finance is getting more priority than any other tools for alleviating poverty, various other financial services need to be introduced in this sector for achieving the desired goal. In this context, micro insurance product may play an important role. Evidence shows that many potential borrowers of micro credit have been ruined due to a single accident and fell into debt forever. A single comprehensive micro-insurance package cover for both life and risks of properties can be of great help to save the poor and small entrepreneurs.

If poverty is considered as something not warranted or desired by any

society, the policies that are not capable of tackling it must then be considered as wrong. The concept of poverty cannot be explained independently of the concept of inequality in the society. This means that the poverty and inequality are casually related. While the absolute inequality contributes to absolute poverty, the relative inequality to relative poverty.

Insurance is an essential service which a welfare state must make available to its people, specially to the poor people. It is desirable that the specially designed insurance products should be made available to the rural areas and to the socially and economically backward classes, with a view to reaching all insurable persons of the country and providing them with adequate financial protection against death and loss of property by different perils. Providing financial and social security to the economically weaker sections of the society is a major social responsibility.

The prime risk of the poor is the possibility that some peril may interrupt the income that is earned by him/her. There are four such perils:- death, sickness, accident & old age. There is also the peril of unemployment. Insurance cover can be given on each of these perils. Private insurance companies normally offer insurance policy against death, personal accidents & sickness. In Bangladesh, old age risk is now being taken into care in a very limited scale, by the state through old age public assistance program.

Role of Micro Insurance

In Bangladesh, micro-insurance started during late 1980s when the private life insurance companies came into operation. Since then, its growth has been phenomenal. So much so that today a large part of the life insurance industry premium comes from micro-insurance and it is still growing. The main providers of micro-insurance in Bangladesh are the commercial life insurance companies directly or through NGO's (Non-government organizations).

Microfinance-non-government organizations (MF-NGOs) have been involved in reducing poverty and creating opportunities for the poor to participate in income generating activities for overall growth of the economy in Bangladesh. At the early stage, their activities were centered on

mobilization of small savings from their members and offering a variety of loan products to them. Some of the MF-NGOs were primarily concerned about the vulnerability of the households against the risks such as death, disability, loss of property etc.

There was a growing realization among the MF-NGOs that savings and credit can not protect the poor households against those risks. As a result, the large MF-NGOs gradually moved into the area of micro insurance and started offering insurance products to their members outside the umbrella of any regulatory framework.

One of the registered insurers started offering microinsurance products to low income households at affordable prices in the late 1980s. Following the astonishing growth of microinsurance program of this insurer during the late 1990s, all registered insurers in Bangladesh except the state owned Life Insurance Corporation and American Life Insurance Company have introduced microinsurance, and this has now become one of their major business operations.

Formal Sector Microinsurance in Bangladesh

Formal sector micro insurance for the purpose of this paper is defined as the micro insurance products developed by the insurers licensed by the regulatory authority under the Insurance laws.

Microinsurance products may generally be divided into: life microinsurance, health microinsurance, disability microinsurance, property microinsurance, and crop microinsurance. There are other kinds of micro insurance products but they are not usually marketed by the insurance providers due to low demand by the prospective beneficiaries.

Benefits under life microinsurance products vary greatly depending on the design of the products, which range from fairly simple to extremely complicated. One of the common life microinsurance products is credit life insurance, which repays a loan if the borrower dies with an outstanding balance. There could be a number of variants of these insurance products of which one could be credit life integrated with some kinds of savings so that in the event the insured dies the outstanding balance of the loan goes to the lender and an agreed amount goes to the beneficiary nominated by the insured.

Health insurance provides coverage for illness and accidents arising from physical injuries. Health insurance usually provides coverage for limited

hospitalization benefits for certain illnesses, and for costs of physicians and medicine. MFIs in many countries including Bangladesh provide health insurance cover to their members.

Microinsurance Schemes of Delta Life Insurance Company

Delta Life Insurance Company, hereinafter referred to as Delta, one of the largest commercial insurers, introduced microinsurance schemes in 1988. Encouraged by the success of Grameen Bank's micro-credit operations, the management of the company introduced life microinsurance products under a project, called Grameen Bima.

Delta introduced another set of microinsurance products under a project called Gono Bima project based on the same concept of Grameen Bima in 1993 but was aimed at the urban low-income group living in the slum areas in cities and towns. Premiums would be collected from door to door in monthly installments. Premiums of insurance products under Gono Bima project were higher than those under Grameen Bima having similar coverage and terms. Microinsurance products introduced by Delta under Gono Bima were: Saving insurance plan, saving insurance plan (modified), advance payment endowment plan, and two installment insurance plan.

Typical microinsurance products provide risk coverage to low income segment of the population at affordable prices, whereas Delta's microinsurance products provide risk coverage, saving facilities and loans to policyholders for investment in micro-enterprises, all combined into the same product, at low premium. It became evident that it was not possible to carry on this kind of microinsurance business without skilled, trained and experienced manpower who could evaluate project viability and monitor loan recovery. Delta, therefore, moved gradually from social orientation of microinsurance business towards development and marketing of microinsurance products on commercial considerations. Some of the key features of the restructuring scheme initiated by Delta are given below:

Basic Features of Main Microinsurance Products (Delta)

	Saving Insurance plan (with Profit)	Anticipated Endowment Plan-Five Installments (with profit)	Anticipated Endowment plan with-Biannual payments (With profit)
Basic sum assured (S.A.)	Min. Tk. 10,000.00; Max.Tk.1,20,000.00.	Min. Tk. 10,000.00; Max Tk. 1,20,000.00.	Min. Tk. 10,000.00; Max Tk.1,20,000.00.

Policy term	10 years and 15 years	15 years	10 years
Age at entry	18-45 years	18-40 year	18-45 years
Mode of premium payment	Yearly, half yearly, quarterly and monthly are allowed.	Yearly, half yearly, quarterly and monthly.	Yearly, half yearly, quarterly and monthly.
Benefits	On survival or on death the basic sum assured together with bonuses accrued thereon is payable.	On survival 15% of basic S.A. is payable at the end of every three years, and the remaining amount of S.A. is payable at maturity together with bonuses.	On survival 20% of basic S.A. is payable at the end 4 th , 6 th and 8 th installments, and the remaining amount of S.A. is payable at maturity together with bonuses.

Microinsurance Schemes of other life insurance Companies

The most popular microinsurance plan launched by the life insurers is deposit pension scheme. This plan gained popularity not because of the benefits it provides in relation to its premium rate but mainly because of the familiarity among the common people of a deposit scheme introduced by some of the commercial banks earlier with the same title.

Premium rate of the few life insurers is determined by dividing the amount of sum assured with the number of premium installments payable during the term of the insurance. At maturity total amount of premiums paid during the term is payable together with the accrued bonuses. A policyholder instead of receiving the total amount of sum insured at maturity may exercise the option of pension benefit, which will be fixed only at maturity. On death, total amount of premiums paid up to the date of death together with bonuses accrued thereon is payable to the nominee.

Premium rates of PILIL's micro Insurance Products are not age specific but uniform for all ages for all microinsurance plans. Premiums are usually payable monthly, but in many cases frequency of payment has been kept flexible. Maximum sum assured is generally fixed at Tk. 1,20,000.00 but in a few cases it exceeded the prescribed maximum. Documentation has been made simpler than what is required under the traditional insurance plans.

Non-Formal Microinsurance in Bangladesh

Typically MF-NGOs form groups of village poor, encourage the groups to make small weekly savings, supplement these savings with MF-NGOs'

own funds and arrange disbursement through the groups to pursue different forms of income generating activities. The borrowers are required to repay the loan in small installment at short intervals, usually on weekly basis. Microinsurance products offered by MF-NGOs in Bangladesh cover the outstanding loan balance, health, disability and provide, in some cases, an additional one-time monetary benefit to the client's designated beneficiary. These MF-NGOs appeared in the microinsurance scene in the late 1990s and early 2000s except Gonoshashtho Kendro, which developed health micro insurance product in 1978.

Grameen Bank and BRAC (Bangladesh Rural Advancement Committee) have also health microinsurance provision. ASA, one of the largest MF-NGOs has not yet entered the health microinsurance market. However, many other MF-NGOs have provisions of health insurance schemes in their agenda. Health insurance coverage for some of the organizations is provided partly by donor's support. It is not clear how the pricing of health insurance would be changed after withdrawal of donor's support in order to make the scheme financially viable.

The micro-finance market in Bangladesh is big and wide, with plenty of room for many players. There are more than 5000 NGO micro finance institutions (MFIs). Several banks, government agencies, and cooperatives are also active in the micro finance sector of the country. Apart from credit and savings, insurance is an important product of micro-finance services for both formal and informal financial markets for mobilizaing capital funds and ensuring incentive and encouragement for investment.

BRAC (Bangladesh Rural Advancement Committee) is one of the largest NGOs in the world. It maintains big micro finance programs which includes group formation, savings mobilization, credit support, skill training, technical support and insurance benefit to its organised members. More than five million poor people so far have been organised by BRAC through its micro finance who deposit savings regularly with BRAC. All these members are eligible to receive loans from BRAC.

The BRAC insurance service cover is only for death of all active members who have renewed their membership. It is not linked with receiving a loan. Members having no loans with BRAC are equally eligible to receive the benefit of BRAC's insurance service. Members do not have to pay any amount as premium. BRAC's insurance service provided a capital sum of

Tk. 5000 to the dependents of the deceased, the money rescuing such dependents from acute financial hardship following the death, and allowing them to continue their economic activities.

If the member is a borrower, with a loan from BRAC, the outstanding loans were written off. As BRAC does not collect insurance premium either by collecting a fee from the members or by deducting an amount from the loan during the disbursement, BRAC used to manages these insurance funds from the interest earned from the loan made to members.

Ghashful, a small NGO MFI based in Chittagong City, offered a life insurance product for the slum urban people who are direct beneficiaries of Ghashful. This life insurance scheme is the cheapest form of insurance protection available in the area. The basic features of the insurance scheme are described below.

The insurer is GHASHFUL, the NGO. The insured persons/policy holders are the direct beneficiaries of the NGO, who are all underprivileged persons in urban slum areas of Chittagong City. Coverage is limited to the members under the savings and credit program of the NGO.

The contract for an insurance policy is for a period of five years. If a policyholders dies, his/her family or her nominee will receive fixed amount from GHASHFUL. The exact amount will depend on the number of years of participation in the life insurance scheme. If death occurs within the first three years, the nominees will receive less and if after 3rd year, the nominees will receive more. If the nominee is not an adult and if there is no guardian then the organization will honor the policy by providing a savings certificate which will mature when the nominee reaches the age of majority. If no death occurs during the five-year period of the contract, all premiums paid by the members will be refunded plus 5% interest.

Features of Micro Insurance products of PILIL (Prime Islami Life Insurance Limited)

Small Savings Assurance Plan (Mukto Bima):-

It is an endowment assurance plan where the assured is given back the money deposited in his Mudaraba fund (participant's account) with accrued bonus. At maturity of the policy, nominee will get the full sum assured along with the profit. At the death of assured during policy period, full sum assured is paid.

Prime Islami Deposit pension Scheme (PIDPS):-

It is an endowment plan with alternative option of annuity (pension). After completion of policy term, the assured can take the benefits of the policy as lump sum with accrued profit, alternatively the assured can take the benefit in the form of pension. Pension is given for 5, 10 or 15 years at the option of policy holders. The nominee gets full sum assured with accrued bonus or pension for fixed period at the death of the assured during policy period. The policy term is 10 to 15 years. Minimum monthly installment is Tk. 500. Double Indemnity Accidental Benefit (DIAB) cover is inclusive in this plan without any additional premium.

Underwriting features:-

- a) About 45% policies are below taka 25000 sum assured.
- b) Average Sum assured of micro polices is Taka 43792.
- c) Only 7% policies' Sum Assured is taka 1,00,000 or above.
- d) 53% of policyholders are female.

Group Cover for the poor

To cover the financial risk of the poor people on group basis, PILIL has designed and developed a group micro insurance product in the name of Samajik Nirapatta Bima. (Social Security Insurance) which will be marketed in 2011. The main features of the plan are:

- It is a group assurance plan where premium is refunded at maturity.
- Term of plan is 10 years.
- Yearly mode of payment.
- Amount of group premium:- minimum taka 5,000/-(five thousand) for the group.
- Number of members of a group:- Minimum 10, Maximum unlimited.
- Age of the member at commencement of policy:- Minimum 18 and maximum 50 years.
- Age at maturity:- Maximum 60 years.
- Target Group:- workers of factory, offices, club, professional groups etc.

At maturity, the assured will get the amount deposited in mudaraba fund and maximum 90% of surplus of tabarru fund (if any). In case of assured's

death within policy period; in case of normal death, nominee(s) will get 30 (thirty) times of individual yearly contribution. At accidental death; nominee(s) will get 60(Sixty) times of assured's individual yearly contribution. In case of permanent disability, assured will get 30(thirty) times of his individual yearly premium.

Group cover for the local and non-resident workers of Bangladesh (Karmajibi Kalyan Bima)

In order to bring various communities of the society under social security system in Bangladesh. Prime Islami Life Insurance has developed recently introduced ' Karmajibi Kalyan Bima' for labourers.

It is a group term insurance which provides full face value of Insurance at normal death and other additional benefit like accidental death benefit, permanent disability benefit, repatriation of body from abroad/funeral cost of the deceased assured and stipend at death & disability. This product is specially designed for low income people working in home and abroad.

This product is a unique example of providing maximum benefits to customers of low income group of the society at the least amount of premium. People belongs to various income group in Bangladesh, such as weavers, industrial workers, employees of government and non-government offices, members of various trade and professional organizations. agricultural workers, fishermen, craftsman, teachers and employees of small enterprises are the main target group of this product.

The benefits of the plan are as follows:

- i. Full Sum assured at normal death
- ii. Double of Sum assured at accidental death
- iii. Full sum assured at permanent & total disability of the assured. Such as in case of assureds loss of both eyes, both hands or both foot.
- iv. 50% of Sum assured payable at partial disability of assured such as loss of one hand or one foot.
- v. 20% of sum assured payable for repatriation of the body of the deceased assured/funeral cost of deceased assured.
- vi. Stipend payable to the nominee on normal death of the life assured 5% of basic SA to be divided equally and payable monthly for 12 months.

- vii. Stipend payable to the nominee on accidental death of the assured 5% of basic SA to be divided equally and payable monthly for 24 months.
- viii. Stipend payable to the assured at total and permanent disability 5% of basic Sum assured to be divided equally and payable monthly for 24 months.

Developing Micro Insurance Products

There is considerable scope of developing life insurance products for the poor people, both as an instrument of saving and to cover the risk of premature death. The micro-finance institutions and the banks providing micro credit may provide insurance cover for the person to whom credit is given. It appears that life insurance companies have not so far made determined efforts to formulate relevant products and evolve marketing strategies to penetrate in this sector. A few possible approaches may be considered and are discussed below.

Emphasis has to be put on group sales. This is simply because contacting persons individually, explaining the benefits and concluding the contract would be costly proposal. An attempt could be made to form groups through the help of N.G.Os and or cooperative societies, social welfare organisations etc. For example, in Malayasia a large number of workers in palm oil plantations are covered through their union. In India, group of landless labourers, handloom weavers and members of milk cooperatives have been covered on a group basis.

For any insurance scheme for the poor premiums would have to be kept low so that the cover would be affordable by the persons concerned. A term insurance based package or a policy with a low saving element may be more suitable. The possibility of collection of premium on an easy weekly or monthly basis rather than on an annual basis, as in the case of industrial workers insurance may be explored.

It is no denying the fact that penetration of insurance in Bangladesh is very low, and the image of the insurance sector is poor. Although, the rural sector offers substantial opportunities, the development of new products in any branch of insurance in Bangladesh had been far from encouraging, even in comparison to India.

Most of the non-life insurance companies in Bangladesh are unlikely to

have any worthwhile infrastructure outside the sphere of their primary activities. Private non-life insurance companies have so far not designed any product on crops, livestock, poultry & aquaculture. There is substantial amount of untapped general insurance business in rural areas such as:

- a) Dwelling, stables, stores, shops,
- b) Pumpsets, harvesters, threshers,
- c) Handicrafts and household productions,
- d) Personal accident & hospitalisation.

A linkage and close working arrangement with the rural banking sector and micro-credit providers is very significant for developing suitable product for the poor. Marketing of insurance is much easier if it is linked to credit. Furthermore it is also possible to coordinate and integrate part of the administrative work with the N.G.Os and other social welfare organisations.

It is no denying the fact that presently, insurance products are mainly focused on lives and properties of the richer class or the middle and lower middle class of the society. The indigenous insurance schemes of some of the micro-credit operators in Bangladesh are mostly life insurance products in nature. But the poor people need security both for their lives and properties(whatever they have). It has been observed that an individual member of MF-NGOs on an average has saved more than one thousand taka per annum. It is, therefore, envisaged that a reasonable amount out of this saving could be used for paying premium against insurance policies in order to protect them from any accidental loss of their lives and properties.

Since micro-credit constitutes the central component of development programmes of most N.G.Os in Bangladesh and it is getting more priority than any tools for alleviating poverty; it is now envisaged that a Comprehensive Micro-insurance Policy (C.M.P) for the micro-credit users will play an important role to achieve the desired goal.

These schemes of MFI-NGOs have some inherent weaknesses as follows:

- i. The basic principle of spreading the risk is defeated.

- ii. The fund which is built up may not be sufficient to meet the large and unusual losses.
- iii. There is no protection from reinsurance and absence of pooling arrangement.
- iv. There is lack of executive talent needed for underwriting, claim and fund management.
- v. If insurance reserve fund is not set aside and only a book reserve is made the purpose is defeated.

The frequency and severity of disasters have increased sharply in the recent decades. In Bangladesh, the major causes of deaths and damages to property from natural disasters are droughts. Cyclones and floods. For obvious reasons, poor people are much more exposed to disasters than are rich ones. In Bangladesh, natural disasters as well as man made disasters are an integral part of poverty cycle.

In Bangladesh, NGO's are increasingly involved in the implementation of schemes for reducing poverty. They are providing credit. A few of them are also extending insurance services to their members and credit users. These services are being provided more or less on rule of thumb basis. Since insurance is a scientific way of dealing with risks and providing security to people it is necessary that this is handled professionally.

It has been observed that micro credit programmes are to some extent effective in fighting poverty. However, it is unlikely that micro-credit alone can be the solution to poverty reduction. The government/donors and micro-credit providers must find ways to extend micro-insurance services to the poor.

It is felt that micro insurers should offer group policies for the poor. Group insurance enables a large number of people being covered under one contract. In case of individual insurance, the contract is with the individual policy holder. The decision to take out the policy is voluntary and the amount as well as plan of insurance is decided by the individual. On the other hand, in case of group insurance, the contract is with the group/association. A single master policy is issued covering all the members, as per agreed terms. Therefore, group policy for micro-credit borrowers, can be issued. The premium will be paid by the respective MFI/NGO or whoever represents the group and takes out the master policy.

Group term insurance is renewable every year and is the simplest and cheapest of all the schemes that a life insurance operator can offer. Under this scheme, a fixed sum is paid on the death of a member covered under the scheme. This scheme would be also appropriate to meet the outstanding loans. MFI's, therefore, should take such policies to cover borrowers at least to the extent of outstanding loans.

When a micro insurer offers group-term insurance, the premium will be charged according to the loss experience of the group. In case of favorable experience, premiums may be brought down or the surplus that emerges can be passed on to the members of the group.

Apart from micro-credit borrowers, "group term insurance" cover can be made available to other poorer sections of society like landless agricultural laborers, handloom workers, rickshaw pullers, artisans, taxi drivers, cooperative milk producers, tailors, barbers, masons, carpenters etc.

It is no denying the fact that the lack of access to insurance is one of the reasons of our inability to achieve any sustainable and substantial increase in living standards for the poor. On the other hand, we must remember that Islamic Shariah prohibits conventional insurance in its present form and methodology. As a result, penetration of insurance in Bangladesh has been very negligible. It is primarily limited to the urban elite sector. However, Muslim Jurists of recent age have concluded that insurance schemes comprising the elements of shared responsibility, joint guarantee and solidarity is permissible. The fundamental philosophy of Islamic Insurance (Takaful) and Mutual Insurance is the same.

How to address Micro-Insurance Challenges

1. Creating Awareness

Poor people's limited overall understanding of insurance is one of the biggest challenges in selling micro insurance to lower income strata of the society. The poor people need to be activated to understand comparative advantages of saving, protection, credit and insurance. Awareness arising programs need to be undertaken by the governments, regulators and the insurers in both formal and informal sector. Once there is general awareness about insurance there needs to be an effort to increase understanding of the specific products.

2. Product Simplicity

Micro-insurance products should be as simple as possible. Both the premium and administrative costs be kept as low as possible. It is also important to ensure that customers can make a claim easily, otherwise the proposed benefits will not be beneficial. Micro-insurers can avoid excluding high risk clients by instituting waiting periods for benefits and or increased death benefits after some time after he or she purchases a policy. Flat premium, irrespective of age of members, inclusion of all members of a family puts all under the benefit umbrella, and premium back features may help to launch positive marketing for the insurer. Affordability of customers and product features must match together to provide real value to the customers.

3. Group Insurance (Mandatory)

Prospective customers may initially overestimate their capacity to pay which can lead to subsequent dropouts. The object of product design and marketing strategy of micro-insurers should be to strike a balance between wider inclusion, affordable premium, reasonable benefits, low dropouts and sustainability of the scheme. In order to reduce administrative costs mandatory group insurance is preferable to individual voluntary coverage as it lowers the adverse selection risk, improves claims ratios, reduces vulnerability to fraud and make the product affordable.

4. Easy Payment Mode

A unique challenge of micro-insurers is premium collection process and frequency. When cover is linked with credit and or group insurance coverage is provided; become easier to collect premium at source. However, to expand the outreach of micro insurance, the insurers should strive to assist individual policyholders to finance their premiums. In this respect, micro-insurers can work with savings associations to encourage clients to deposit slightly higher amounts into their savings, which can be utilized for premium payment. The micro insurers can also help to boost the income of the insured's by helping them access to micro finance with easiest terms and rates. While monthly payment mode is used, the insured may be allowed to pay arrear premiums, if any within next two months without any penalty. If

and when arrear premium is collected without additional charges it may help to halt higher lapse ratio.

5. Managerial Efficiency

One of the great imperatives for the micro-insurance operators is to significantly reduce operating expenses relative to premiums. More efficient operations should result in lower premiums and or additional benefits for policyholders. Among other things, micro-insurers must have appropriately skilled employees, realistic product pricing, a sound business plan, reliable management information system. Managers of micro-insurance need a business plan that helps them stay focused on delivering high value protection at the lowest possible cost.

To be managed effectively, micro-insurance program should be undertaken as an independent activity so that management can assess its viability and potential. Good management means using available opportunities and confronting imminent threats effectively. Operators should know how to learn from other's mistakes and perform above the market standards.

6. Insurance Education

Insurance education to understand product features must be customized to different target groups, taking into account of their religious faith, culture and taboos. Communication methods such as street theaters, folk theaters, music, musical soiree, video programs can be rightly used. Literatures in simple languages with pictures, cartoons may also be useful. Claims documentations and procedures be made simple. After sales service need to be ensured and, therefore, agents be motivated to work as social worker for the welfare of the community. Operators can motivate them by focusing on their ultimate success as human being in this and the world hereafter.

7. Policy Issues

In order to address challenges of micro-insurance, policy issues be made clear by the government and the regulator. It is no denying of the fact that there is a need to respond to the growing micro insurance market in order to safeguard provisions of insurance products for the poor. Possible areas of policy tools are as follows:

- (a) Governments role and intervention in developing micro insurance as a social and economic measure for the poor.
- (b) Setting a regulatory framework for expansion of micro-insurance both for formal and informal sector.
- (c) Providing technical and financial aids to micro insurance operators and or subsidy to premium.
- (d) Establishing training and research centers along with creating data base of prospective customers in different segments.

A combination of various policy tools can be integrated into a policy of “access to insurance services by the poor”. This will help to set the framework conditions for the development of a micro insurance market.

8. Regulation

Regulation and supervision of micro insurance is one of the most powerful policy tools. Regulation can facilitate the introduction and recognition of non-traditional delivery channels, the inclusion of players form outside the formal insurance system, the establishment of new licensed micro insurer, framing market code of conduct for operators, agents, donors and protection of customers. It is interesting to note that India has already introduced regulations for facilitating distribution of micro-insurance as supplementary to its regulation on rural and social sector obligations of licensed insurers. Bangladesh need regulation for micro insurance operators be it formal or informal.

9. Training

There are not sufficient opportunities of training needed by micro-insurance operators. Trainers need to be developed first. Major challenge is the professional operation of the schemes. Therefore it is necessary to decide whether the amateurs or the professionals be allowed to operate micro-insurance. It is felt that micro finance institutes and non-government organizations can operate micro-insurance only in collaboration with regulated insurance providers. In that case product development, underwriting principles, pricing of products, claims management be left with the conventional insurers, while the MFIs & NGOs should deliver the service of insurance to their members.

10. Social Marketing

The promotion of micro-insurance requires social marketing techniques along with financial education to change the negative attitude of the prospective customers. Therefore, the micro insurance operators need to use a combination of several vital messages to the target market. The messages are a) financial protection in times of dire needs of the insured b) the risk pooling system through creating common fund with the spirit of helping each other c) necessity of insurance be portrayed by setting examples of distressed people due to uncertain events of life.

11. Trust

Micro-insurance have to earn the trust of the target market. The best way to earn trust is to pay claims as quickly as possible and transparency in pricing, operations and customer service. One unique feature of Takaful system is that the transactions have to be transparent. This is important for micro insurers. To earn the trust of the poor people micro-insurers need to be transparent in pricing, operations and customer services. It is also important to ensure that the products are as simple as possible. Exclusions and restrictions should be minimized.

Micro-insurance need to be used to provide protection of the poor people against risk and an integrated strategy of social protection. This needs collaboration of private and public institutions and civil society organizations to create an equitable system. The schemes should be sustainable and affordable to all stakeholders. The demand for micro insurance is there. But the challenge is to find-out the right product design, delivery mechanism and institutional arrangement to address that demand in a cost effective way that provides value to the customers. Insurers, credit providers, donors and development agencies can play a significant role in improving the design of products for the poor.

It is observed that saving and credit linked insurance products can make an important contribution to protect the poor. Therefore, the savings and credit organization should utilize their capacity to introduce mandatory insurance by involving their clients in the decision to do so. This would reduce the transaction and other costs substantially. Group coverage and short term insurance is more appropriate because it minimizes cost and can offer lower

premium. For marketing purpose, it makes sense to charge the same price for each client. In life insurance the applicable rate can be derived from the weighted average mortality rate.

The future success of micro-insurance depends on achieving prudent, profitable and continuous growth and development. The goal of micro-insurance is to make appropriate, affordable insurance products to the poor to help support their economic development. There are many challenges that inhibit the development and expansion of micro-insurance. It is, therefore, necessary to tackle these challenges by effective insurance awareness and providing client education, cultivating an insurance culture in the low income market and reaching the most vulnerable. It is also necessary to strengthen management, enhance efficiency and find an appropriate model and delivery channel. To insure the poor, customers, regulators, policymakers, insurers, micro-credit providers, non-government organizations must work together with a common purpose. The measures are as follows:

Proposed Regulations

Customer protection: The legal and regulatory framework should aim to ensure that microinsurance products and services are fair to low-income policyholders, designed to address their real needs and requirements and appropriately and fairly marketed to and serviced for them.

Proportionality: The restrictions imposed on the industry must be proportionate to the benefits that are expected to result from them requiring the regulator to take into account the cost of regulation on firms and consumers.

Low regulatory burden: Emphasis should be placed on product simplification and simplified disclosure and reporting in order to facilitate low-cost provision of microinsurance products.

Transparency: The legal and regulatory framework should require transparent, clear and plainly worded marketing, explanatory and policy documentation so that the rights and obligations of the insurers and the insured policyholders are readily ascertainable and understandable.

Integration: The legal and regulatory framework should enable the integration of microinsurance products with other financial services, where

appropriate.

Formalization: Microinsurance should only be provided by regulated insurers and formally accepted delivery channels.

Special Project of Micro Insurance

With the financial grant (US\$ 2 million) support from Japan Fund for poverty Reduction (JFPR) and administered by Asian Development Bank (ADB), PKSF has started Developing Inclusive Insurance Sector Project (DIISP) in January 2010. The objective of this pilot project is to protect the livelihood of poor households, especially women, from risks such as accidents, illness, theft or natural disasters to secure their welfare and productive and non-productive assets through low cost inclusive insurance services (microinsurance). Mostly life, health, livestock and/or disaster insurance products are offered to the low-income group with minimal documentation. The Project has four major components:

- a) market assessment and microinsurance product development;
- b) strengthening policy, legal and regulatory framework for microinsurance;
- c) awareness creation and capacity development; and
- d) microinsurance pilot scheme. The Project Management Cell (PMC) of DIISP has selected 21 partners for field level implementation based on their competence and effectiveness in working with poor communities.

PKSF received a grant fund from the Rockefeller Foundation (RF) to implement a project titled- 'The health insurance for the poor of Bangladesh'. The RF project is expected to supplement the better implementation of DIISP and build the capacity of PKSF officials on microinsurance programmes through exposure.

Managing micro insurance requires entirely different approaches by investors and promoters. Knowledgeable policy-makers are required to play a role in facilitating microinsurance with a well-tailored set of policy tools. In other words, there is a need to respond to the growing microinsurance market in order to safeguard provision of insurance products for the poor.

Role of PKSF

The Government of Bangladesh has published National Insurance policy which provides guidelines and responsibilities for developing MI and social health insurance. Micro insurance needs to serve as a response to financing the access of group and individual insurance. It is, therefore, logical to expect that MI scheme of PKSF be treated as a social security programme and should be planned within the framework of National Insurance Policy 2014. MI needs to be developed as a stable mechanism for financing the poor (specific target group).

It is no denying of the fact that the poor need health care more than the other, because their living conditions and environment is dirty and polluted causing a high risk of infections and diseases. On the other-hand, protection by micro-health insurance is restricted because insurers require large startup costs and long term financial commitments. It also requires experienced and qualified work force.

Community based micro-insurance schemes are generally operated on low premium with low coverage. Management of MI program requires greater level of technical expertise and actuarial assessment. In the absence of mortality and morbidity table, actuarial assessment is also difficult to design right product at right price.

Strong underwriting procedures are required when only a small percentage of the prospects are insured. Managers have to be able to predict future costs and claims. They ought to have an effective and continuous market research program to ensure sustainability. The lack of knowledge and skill to effectively price the product weakens the financial sustainability of the scheme.

Marketing of MI products to poor is more than just selling insurance policies. There is a need to create awareness and educate them on the benefits of the products, the coverage it provides and how to make claims. The poor people have to be convinced to pay premiums on a regular basis for long period. Therefore, communication techniques have to be more conducive and effective. While premiums need to be kept affordable, it should also ensure the financial sustainability.

To ensure financial soundness of the program, a sufficiently large pool size is required. It is likely that those who are more likely to be affected by diseases will be the first to cover their risks under the scheme. Reaching a sufficiently large pool size of the right mix of risks is difficult to ensure.

It is also likely that some claims will have to be paid without proper verification due to high cost of documentation and procedures. As a result, the insured is likely to change his/her behavior which will increase the possibility of fraudulent claims. The MI provider, therefore, needs an effective claim verification system but without delaying settlement procedure. An appropriate internal control and management system need to be developed and corporate good governance practices need to be ensured.

Qualified, honest and experienced staff both for insurer and health care provider is a basic requirement. In the absence of appropriate human resource, innovative techniques to achieve sustainability and viability in the long run will be extremely difficult. It is to be noted that the two biggest problems faced by most of MI providers are financial sustainability of the organization and affordability of contribution by the poor users.

It is observed that MI providers are generally smaller in size and economies of scale are not enjoyed by them. At the same time, they are not responsive, efficient and flexible. To be an effective and efficient MI provider one need to have a closer relationship with the users. PKSF is having a strong corporate governance system and what they need is proper monitoring and supervision over the partner organizations responsible for implementation of the project.

Credibility and sustainability

For any scheme to be sustainable in the long-term, there is a need for access to a sufficiently large group to spread the risk and costs. An efficient and effective MI requires sufficient premium to cover the cost, which would effectively mean excluding access for many of the poor. One solution to the problem is different coverage for different premium. This can bring in people at the lower level with a view to encouraging them to take on additional coverage for additional premium later on.

The poor people need to be educated how a small amount of premium can build a common fund for all the participants. They need to be assured on the integrity of the system and there will be clear accountability and

transparency. Building trust among the users is very important. In this respect a very high challenge for the MI providers is to find staff that has the integrity and inter personal skills to effectively undertake the role of real and ideal service provider.

Maintaining the credibility of the organization is paramount in ensuring that people have faith in the protection promised. The Partner Organizations (P.O)'s need to be accountable and transparent in its operation and employees need to be adequately paid to deter corruption and high turnover. In an environment, where corruption is in highest scale, there is very little trust in any institution. This is a challenge in the informal sector where the poor have little rights and remedies.

In order to overcome the situation, it is felt that participatory independent non-profit organizations can be formed, based on the principles of brotherhood and solidarity. This would ensure better quality and more equal access to micro insurance services for the poor. Mutual insurance service provider and community based health service providers, perhaps can combine the concept of insurance at low cost and mass participation of the poor.

In most cases, it is observed that low-income group or the poor are initially reluctant to accept the idea of paying in advance for services that they may or may not use. As a result, the sale process should focus on educating the people about the collective benefits of insurance. Once a family is interested in becoming a member, they may be induced to motivate several other families in the area to join as a group. Forming these groups (Clubs/association), reduces the acquisition costs, decreases the risk of adverse selection, facilitates premium collection and reduces transaction costs as the group pools their premiums to make a single payment.

Ensuring long-term viability

It is observed that many of the micro-insurance schemes for the poor are not sustainable and financially not viable in the long run. This is mainly because, in the initial years of operations, they face huge financial deficits, which are met by donation. If and when donors fund is withdrawn, if the scheme is continued, it can result in depletion of reserves and may lead to insolvency.

While, premiums need to be kept minimum and affordable for the poor, the

fund generated for providing benefits should also ensure the financial sustainability of the insurer. In many cases, irregular flows of income in low income households make it difficult for them to continue regular payment.

Consequently, a sufficiently large pool size is required to justify the substantial resources to market and administer products, to a largely uneducated, skeptical group. Overuse of services, escalating treatment costs and fraudulent uses of services in many cases have caused MI schemes to incur large loss. It is obvious that MI schemes for the poor are financially unsustainable due to high overheads, low premiums and high claims. The majority of schemes rely on funds other than those received from premiums.

The micro insurance providers face a huge challenge to penetrate the poor and to recover costs. They need qualified and motivated staff, who should be remunerated well. They also need sufficient resource for marketing and educating the people. All these need to be met as well as high commitment and huge fund are required so that MI scheme eventually achieve sustainability in the long run, while still providing access to the poor.

In order to reduce fraud, moral hazard and adverse selection of risks some of the measures likely to be effective are as follows:

- a) Differential pricing for different types of risks and on the basis of claims experience.
- b) Exclusion of pre-existing conditions in health.
- c) Exclusion against drug abuse, injuries from strikes, riots etc.
- d) Co-payments on varying degree of diseases/costs involved in hospitalization.
- e) Fixed waiting period before enrolment under the scheme.
- f) Requiring the whole household to enroll as a unit of membership.
- g) Supplementary insurance cover against dread diseases may be provided.
- h) Close monitoring of treatment costs and types of treatment to be ensured.
- i) Application of underwriting standard and use of deductible has to be made.

Different coverage for different premium can bring in people at the lower level with a view of encouraging them to take additional coverage for additional premium later on. There should be continuous product development (inclusion or exclusion of risks) and innovation to meet the emerging needs, lifestyles and habits of the poorer classes and the rural sector. In this respect, flexible payment systems would allow them to pay when and how much they can. Monthly or even weekly payments are often the key for ensuring full participation. However, it leads to lapses/discontinuance of policies.

Community Involvement

Micro insurance requires a physical closeness between the users, providers of health care and insurance services. Closer distribution relationship is also required for a detailed understanding of clients needs and an efficient delivery system. PKSF needs to have a right match and mechanism to achieve the two conflicting desire; mass participation as well as closer distribution relationship. By creating community spirit and organizing the poor in small groups to access necessary services we can overcome the dilemma and this will ensure the scheme's efficiency. Voluntary small organizations need to be created for integration into a large scale insurance mechanism.

Area-based voluntary association need to be formed because the State does not or cannot provide sufficient quantity and quality micro insurance and health care services for the poor. These associations will assists the households to organize and solve their health and other financing problems, through education, dialogue and access to micro insurance and health care services at the least possible cost.

Application of the principle of mutuality or cooperative structure of these associations will make it easier to win the trust of members and will help to build up a better society. Peer pressures from within established social groups can encourage members to avoid morally hazardous behavior. Trusted relationship, solidarity with members will provide the opportunity to build a stable policy holder base.

The very nature of insurance is based on the concept of mutuality. Risk is shared by the many to protect the few. Therefore, people will understand its benefits and mechanism. Community involvement will reduce the costs by

offering insurance to large affiliated groups. These associations or societies will act as a natural and cost effective distribution channel for insurance.

Micro finance institutes have realized that savings and credits are not sufficient in their own to prevent people from falling back into the vicious circle of poverty in times of crisis caused by sickness and or accident. Providing appropriate health insurance can ensure that the foundations on which the poverty alleviation is built is strong enough to keep them out of poverty. The role of micro health insurance be given equal or more importance to that of micro credit insurance.

It may be realized that the success of credit and savings schemes depends on the availability of appropriate micro life, health and personal accident insurance. Protection against the cost of health services through insurance mechanism will enable the poor to participate more in the economic activity.

MI in reality is the most difficult to manage. There is a tremendous diversity of MI programs around the world. Currently many schemes show great promise and innovation. While PKSF is supposed to continue the scheme, it is challenging to ensure good quality, control administrative and service cost, prevent fraud, prevent excessive utilizations and so on. It is important to continuously accumulate clean and accurate claims and exposure data for analysis and constant monitoring in order to rapidly detect any emerging anomalies or unfavorable trends.

Performance Analysis

To develop and implement a successful micro insurance scheme and in order to achieve the desired performance; PKSF requires a comprehensive, Quality Management Information System (MIS). It is important to design the MIS with the help of insurance experts to ensure that the data captured will be useful for periodic evaluation of

- a) Product price
- b) Product design
- c) Reserve calculation
- d) Re-insurance requirement
- e) Internal control and

f) Corporate governance

Furthermore, evaluation of performance be made periodically by analyzing the:

- i) Net income ratio (Net Income/Earned Premium)
- ii) Incurred expense ratio (Incurred Expense/Earned Premium)
- iii) Incurred claims ratio (Incurred Claims/Earned Premium)
- iv) Promptness of claim settlement
- v) Claims rejection ratio (Number of Claims Rejected/All Claims Reported)
- vi) Growth ratio
- vii) Coverage ratio (Number of insured/Target population)
- viii) Liquidity ratio (Available Cash/short term payables)
- ix) Solvency ratio (Admitted Assets/ Liabilities)
- x) Social investment ratio (Total expenditure on information, education and communication /Total expenditure of the project or programme.
- xi) Percent of insured below the poverty line (Number of insured below the poverty line/ total number of insured in the scheme).

A large coverage ratio is indicative of a good program in which the participants are readily pooling their scarce resources for protection from the risks that they face. Partner organizations need to define its target market to calculate coverage ratio. The claim ratio indicator attempts to measure that the target group is benefitted by participation and their contribution is not being eaten up to meet the administrative overheads.

It is heartening to note that PKSf is always engaged in developing innovative, cost effective, pro-people policies and programmes. DIISP is not simply to provide insurance for the poor but at the same time need to be considered to have social protection function. Therefore, performance should not be evaluated on technical aspects and financial viability only but also on its capacity to achieve social protection outcomes and socio

economic impact of the pilot scheme.

Concluding Remarks

Micro-insurance programs should aim to become viable in the long run. In order to ensure viability, few key principles ought to be followed, without which transparent and accurate performance measurements are not possible. For evaluating performance, we need relevant and reliable information extracted from micro-insurance operations. Software applications need to be added to the system to periodically analyse data base consistency.

MI pilot scheme should produce periodical financial statements. If the scheme is operated on mutual basis it is necessary to set up adequate reserve, monitor claims, and should have a clearly defined investment policy. Quality MIS and evaluating the key indicators periodically would increase transparency and management capacity. The primary purpose of MI is to assist the less privileged. Therefore, the pilot scheme needs to have a clear, strong and consistent focus on providing good value and efficient service to the insured.

The regulation and supervision of microinsurance is one of the most powerful policy tools. Regulations can facilitate the introduction and recognition of non-traditional delivery channels, the inclusion of players from outside the formal insurance system; motivate the establishment of new licensed insurers and the improvement of market conduct regulation in terms of policies, claims and consumer protection.

Conducive policies are one side of the coin, the other side is the proactive behaviour of the insurers towards including poor client groups. Because regulations often follow industry practice, the importance of dialogue with of community-based insurers and the commercial insurers, cannot be ignored. In this regard the commitment and knowhow of authorities' i.e. policy-makers and regulators and supervisors – in facilitating the development of microinsurance is indeed very crucial.

Time is not ripe to make concluding remarks about micro insurance in Bangladesh. The industry is learning through trials and errors. We cannot judge accurately unless we gather experiences. Experiences we have gathered so far are mixed and varied. We need to learn more and more from historical perspectives and current developments.

We are optimistic and looking for brighter days in future not only in the field of micro-insurance but also in the broader horizon of risk management, conventional insurance and the emerging Takaful system. What we need today is transparency & efficiency in the mechanism of micro insurance, which can bring real good to the poor people. Sincerity of purpose is the key point from where we need to strive our efforts. Best results can only be derived when our efforts are best. May Allah help us in our sincere efforts for the betterment of mankind.

Role of ERP in Modernizing Insurance Sector

Md. Shah Alam

Generally Insurance industry is a complicated and paper heavy industry. In insurance business, from filling up proposal form to issuing policy documents and other task require lot of paper. Moreover, insurance industry is much more complicated than other industries within the financial sector as insurance deals with uncertainty. All the complications can be managed in a prudent manner through adoption and implementation of a software based platform like Enterprise Resource Planning software.

Bangladesh government has sped up its effort to digitalize all sectors at fast pace to take up the changing environment of fourth industrial revolution. Every industry within the financial ecosystem growing fast because of the digital transformation in which they build an ultramodern environment to cater to clients with less time in an efficient manner and with less cost. Insurance is an integral part of the economy rendering millions of people and thousands of enterprises. Bangladesh Insurance industry suffers from multiple problems including high management expenses, delay in settling claims and old-fashioned administrative effort. These problems can be easily solved in an easy way adopting ERP solutions. However, the adoption of an ERP is still not widely used due to the fact that owners of the insurers think of it as a luxury expense instead of a daily operational need. In order to develop a sustainable future it is required to adopt sophisticated hardware and software. As per the current global practice, development of IT and ERP infrastructure has shifted to a need rather than an expense and therefore up to 5% of revenue is allocated to Research and Development of IT and ERP infrastructure. Benefits of using ERP always override the procurement cost and it has been proved worldwide.

At present a few insurers are using ERP system fully and some of them using partially and rest of them, using manual process. Customers are receiving user friendly services from the bank and capital market but insurance is far way behind to provide such services parallel to banks and capital market. Efficient management of the compliance requirements of regulators,

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Shareholders, Employees and third party vendors are only possible through the adoption of ERP. Therefore to run the business perfectly with using state-of-the-art technology, it is required to adopt ERP system to synchronize organizational functions.

ERP has many tailor-made options which are fully designed to provide operational efficiency, systematic process alignment and adherence to Standard Operating Process (SOP), fast, and transparent services. ERP works as a fully integrated applications and works in real time and a common database supports all the applications. It has various units for different departments and connect all the departments by single large system. ERP supplies information among all business functions and manages connections to the stakeholders. Therefore with accurate real time data from all operational divisions, timely decisions can be made benefitting the company through an action oriented solution model instead of reacting to problems and always being behind. ERP systems run on a variety of computer hardware and network configurations, typically using a database as an information warehouse. It integrates various organizational systems and facilitates error free transactions and production, thereby enhancing the organizations efficiency. Customer servicing interface, framework and satisfaction level along with employee and agent's performance and work flow management is easily provided by ERP through use of Artificial Intelligence and Forecasting techniques. Most importantly, due to the Insurance sector a service based industry, operating insurance business through an ERP ensures that the service and commitment is met quickly thus enhancing trust and contributing towards inflow of new personnel leading to a sustainable and promising future. Therefore developing and operating an ERP system is critical to the progress and growth of the industry and differs in many ways from traditional manual set up in insurance industry.

In insurance sector ERP system can be used in multiple fields. List of areas where ERP can be used are as follows:

◆ Accounting: In preparing general ledger, Income statement and Balance sheet, Fixed Assets management, receivables cash management and collections and financial consolidation. ERP plays a pivotal role in preparing these task. Moreover, ERP enables organization to Budgeting, costing and maintaining financial management.

- ◆ Act as Insurance Policy Repository: ERP system collects various information including insurance policy data, therefore ERP system act as policy repository system.
- ◆ Human resources management: From recruitment to maintain their personal data ERP system could be the best solution.
- ◆ Project Management: ERP can be used in Project Planning, resource planning, project costing, time and expenses management, performance units and activity management.
- ◆ Data services: Various “self-service” interfaces for customers, suppliers or employees.
- ◆ Claim Settlement: ERP creates seamless opportunities for insurers to settle claims at first peace compare to non ERP users.
- ◆ Life insurer’s liability valuation: For life insurance sector using ERP gives many benefits over traditional approach. It is very cumbersome for the insurer to conduct actuarial valuation without digital platform. If company maintains policy data through ERP it becomes easy to inspect the validity of data. For the error free data management it is important to have ERP system in place.

The importance of ERP solutions in the insurance sector:

(1) Insurance is a contract between an insurer and an insured. The insurer guarantees compensation for the loss incurred by the insured for the conditions stated in the contract. In exchange for the insurer looking out for the other person, the insured pays a yearly/ monthly premium to the insurance company. The insurance management ERP software makes all these process simpler, better and faster.

(2) Managing insurance company is a complex task at it requires a large workforce including agents. The right ERP solution can simplify and improve the process through centralization and management of information, simplifying data gathering and improving resource management.

(3) Every business wants to grow. For that reason, businesses take help of software solutions. These solutions help them to manage and optimize the

business cycle. The insurance management ERP software is designed to do just that for insurance business.

(4) ERP solutions are designed to optimize the operations of insurance agencies preparing there to stay miles ahead of the competition. ERP is a boon to organizations as it helps in integrating the company data into a common platform. Growing implementers of ERP solutions are times in the insurance industry that deal with the massive volume of data that needs to be organized and categorized based on the intricate valued they hold. In order to have appropriate data back up and analytic strategies and take care of legal agreements, these asset and life protection services companies utilize ERP innovations as the premier solutions. There are several areas where ERP plays an increasingly important role in the realm of insurance. ERP provides the insurers and agents with a common platform that helps them forecast and track sales and facilities coordination between their marketing departments and consumers. The implementation of an ERP system aids the insurance agency to focus on streaming process. Specially pertaining to compliance management and claims processing and these allow for improved turn around time and increased customer loyalty. In addition to accessing customer data in real time, insurance agencies would have the ability to track any agents for a scheduled meeting with the use of an ERP system.

(5) ERP system can also further enhance the time management of an insurance agent by allowing them to stay on top of their schedules and even access critical data from any device.

(6) The insurance industry is one of the most regulated industries in today's economy. When there are changes to legislation, organizations must be able to access their data and present to the relevant body as quickly and efficiently as possible. Being able to evidence this data ensures the insurance business remains compliant. The ability to analyze and visualize data is a huge selling point for many companies in the industry.

(7) One of the most significant functional aspects of an ERP system is the ability to integrate data from several departments and bring it into one unified data base. In the insurance industry this is especially important when tracking customer history including past transactional details, personal data and legal agreements.

(8) Insurance brands pride themselves on the high quality service they deliver to their customer and in such a competitive market it's easy to see why such a considerable emphasis is placed on this. Companies who specialize in expert star ratings such as good as look to insurance agencies to provide the quality service expected, having an ERP system in place is the first step in ensuring this. By accessing important information about customers at the click of a button, insurers can provide an efficient service, encouraging brand loyalty and repeat business.

(9) Profitability is the end goal and tracking all aspects of our sales process and activity is incredibly important when it comes to providing insurance outbound and inbound sales calls, referrals, cross-sell quotes and internet leads are all the key sets of data we can record easily. Identifying and analyzing every touch point and result with a customer can help we make the best and most informed business decisions.

Other than these, there are many advantages of ERP system which are as follows:

- ERP helps in relationship building and nurturing with insurance customers.
- It manages as many centres as we want.
- It offers optimization for insurance processes.
- ERP creates synergy with distribution channels effectively.
- It manages end to end business operations and requirements.
- In case of life insurance ERP uses develop with global insurance companies, tailored for the needs of the business, automated underwriting and risks assessment, automatic claims processing and settlement and online functionality for remote access.
- In case of general insurance ERP uses to insight-driven decision making suitable for businesses of all sizes, deep domain and expertise and streamlined operations and finances.
- In case of insurance Brokers ERP can easy to use and scalable, it can manage millions of documents without error, easy upload and download of document, eliminate paper-based process and save time and money.

Conclusion: Technology is the biggest game changer in global financial market. Tracking potential customers, selling financial products, engaging customers for long time, processing numerical data, preparing financial accounts, storing data and maintaining inter departments are the key task being done thorough ERP in modern worlds. At the age of fourth industrial revolution, to take up the challenges every insurer should use ERP system not only to reduce the cost but also to cater best services to its customers. It has proven that ERP is the best tool that increase the efficiency, reduce cost . Therefore to stay strong in a highly competitive market insurers must adopt ERP system.

An Analysis of claim Settlement Scenario of Non-life Insurance Industry of Bangladesh.

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Introduction

Insurance claim is an official request to the insurance company by the policy holder to get reimbursement for property/financial losses. The term 'claim settlement ratio' refers to the percentage of claim resolved by an insurance company during a year out of total claim received by the insurance company. Any client feels the need for insurance when they encounter a financial crisis due to an unforeseen accident and realize the benefit of insurance when receives the money after claim is filed. When the clients pay the insurance premium, they do not fully comprehend its benefits and often consider it as an additional financial burden. Insurance is worthless if the claim is not met or compensated in due time or eventually never.

Business enterprises, industries usually insure their property to protect their assets from financial loss due to any accident. Therefore the insurance company which settles the claim properly in time can see an increase in their customer number. On the other hand, companies which do not settle claims in time properly have a reducing number of clients. Therefore claim settlement is a major indicator for clients to select insurance companies for taking insurance for their property.

Suppose someone has comprehensive motor insurance for his 35 lacs worth car which has an annual premium of 30 thousands. If the car does not face any accident, he needs to pay this money every year. If any accident happens, he can get 30 lacs or claim amount depending on the quantum of loss from just by paying 30 thousands taka. So, when customers can get compensation from a small premium, then they understand the significance of insurance. Therefore, claim settlement is very important. Sometimes claim disputes arise which require further assessment of liability prior to claim settlement by the insurer. Then a delay in claim settlement results which also involve additional cost for the insurance companies.

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Before buying insurance, the most important aspect that customer usually check is how speedy the insurer settle the claim. Claim settlement is a service that is very important to the insured & he can renew or stay with the insurer depending on the claim settlement service. Claim settlement is like a mirror to insurance companies where the public see the real face of their business. When an insurance company fails to settle the claim, the satisfaction of the clients would definitely hamper the business and discourage them from buying an insurance policy. So claim settlement in insurance is very important. The main purpose of the present research is to determine the situation of claim settlement in the non-life insurance industry of Bangladesh i.e. whether the situation of claim settlement is satisfactory or not, if not, why and what should be done for clients' satisfaction, which is directly related to claim settlement.

Research Gap:

According to Annual report of Insurance Development and Regulatory Authority (IDRA) the average claim settlement rate of nonlife insurers from 2015 to 2022 was 68.58%. The average claim settlement rate of non-life insurance was 75% during 2009-2017. So, claim settlement rate of the insurance sector is not satisfactory. Depending on the ratio of claim settlement, the present research is the demand of the time to analyze the claim settlement scenario of the non-life insurance industry of Bangladesh.

Objectives of the Research:

- What is the claim settlement rate of non-life Insurance Companies/Corporation of Bangladesh?
- Whether the claim settlement is done within the stipulated time (within 90 days) as per the Insurance Act? If not, it is necessary to find out the causes & remedies of the issue of non-life insurance sector of Bangladesh.

Literature Review:

As per IDRA report, within 2015-2022, the average number of claim settlement rate was 68.58% (Table-1) and insured (clients) raised claims worth 21278.79 crores BDT among which 7103.43 crores worth was settled. During 2015-2022, total Number of claim raised 270,465 & total number of claim settled 185,248 i.e. average number of claim settlement was 68.58%. On the other hand, in India, the claim settlement rate was

98.3% to 99.3%.(2020-21) (1). Worldwide, average claim settlement average rate is 97-98%.From here we can say that, the claim settlement rate is not satisfactory in the non-life insurance industry of Bangladesh and there has not been tangible progress in the insurance industry because we see the rate of claim settlement was 59.16% in 2022 (Table-1).

The Annual Report of Insurance Development and Regulatory Authority (IDRA) also shows that the number of claim settlement rate was 77.96% in 2015, 75.58% in 2016 and 75.41% in 2017 66.23 in 2018, 68.03% in 2019, 55.47% in 2020, 70.79%, in 2021, 59.16% in 2022 respectively. The average claim settlement rate was 72.64% during 2015-2019.

The Annual Report 2018-2019 of Insurance Development and Regulatory Authority (IDRA) Table-2 also shows that the amount of claim settlement rate was 47.23% in 2015, 43.63% in 2016, 35.75% in 2017, 40.87 in 2018, 52.07 in 2019, 31.60% in 2020, 39.31% in 2021, 33.44% in 2022 respectively. The average amount of claim settlement rate was 40.49% during 2015-2022. The claim settlement rate of non-life Insurance companies in Bangladesh still lags behind the world standard as well as that of neighboring countries. Claim settlement rate of Nepal 90%, Thailand 94%, Malaysia 95%, Singapore 97% etc.

Global standard for claim settlement is 97% to 98% and it is 68.58% in Bangladesh. Out of this 22.8% (Table-3) claims are not settled within 90 days as per insurance act which is one of the causes for low confidence in the insurance sector. There are no statistics of how many claims are repudiated. Valid reasons need to repudiate a claim but as most of the insured don't know the terms & conditions of insurance policy and that is why they misunderstood that insurance companies don't pay claims. This is another main cause of the negative image of the insurance sector. According to the insurance act, the claim has to be paid within a maximum of 90 days. In many cases the claim is not paid within 90 days. So the reasons for this need to be analyzed and resolved.

Claim settlement is one of the most important services that an insurance company can provide to its customers. Insurance companies have an obligation to settle claims promptly. There is a saying 'Insurance companies solely depend on the customers but the customers do not depend on them'. Therefore maximum customer satisfaction needs to be ensured and claim settlement needs to be done as soon as possible. This is a must for business

progress. 'Claim settlement is the key elements of customer satisfaction which has long been ignored by insurer. Due to strong initiative of IDRA culture of claim settlement has been improving' (2).

Research methodology:

Mixed Research method has been followed. The study has been performed based on the information extracted from different sources collected by using following methods.

Primary sources of data:

- Data collection with structured questionnaire from the insurance corporation/companies of Bangladesh.
- Face to face conversation with structured questionnaire.
- Focus group discussion.
- Interviewing relevant offices of different insurance companies.

Secondary sources:

- Annual report of IDRA
- Annual report of different insurance companies.
- Internet and various study report.

Research Findings:

Number of claim raised, claim settled and percentage of claim Settlement (2015-2022)

Table-1

Year	Indicator	(Number)				Total Claim Settlement
		Fire	Marine	Motor	Miscellaneous	
2015	Claim Raised	3360	5495	10118	6999	25972
	Claim Settled	2085	4238	7683	6243	20249
	% of Claim Settlement	62.05 %	77.12%	75.93%	89.20%	77.96%
2016	Claim Raised	3518	5928	11138	8780	29364
	Claim Settled	2028	4158	8107	7899	22192
	% of Claim Settlement	57.65%	70.14%	72.79%	89.97%	75.58%
2017	Claim Raised	3859	6675	12297	11108	33939
	Claim Settled	2106	4629	8700	10160	25595
	% of Claim Settlement	54.57%	69.35%	70.75%	91.47%	75.41%
2018	Claim Raised	3510	7956	13296	11862	36624
	Claim Settled	1705	4425	8960	9167	24257
	% of Claim Settlement	48.57%	55.61%	67.38%	77.28%	66.23%
2019	Claim Raised	3436	8646	13464	16831	42377
	Claim Settled	1837	4646	8550	13799	28832
	% of Claim Settlement	53.46%	53.73%	63.5%	81.98%	68.03%
2020	Claim Raised	2856	7789	10167	7364	28176
	Claim Settled	1382	3855	6376	4015	15628
	% of Claim Settlement	48.39%	49.49%	62.71%	54.52%	55.47%
2021	Claim Raised	2766	8482	9106	20121	40475
	Claim Settled	1214	4124	5943	17372	28653
	% of Claim Settlement	43.89%	48.62%	65.26%	86.34%	70.79%
2022	Claim Raised	3524	10009	8846	11159	33538
	Claim Settled	1367	5617	5781	7077	19842
	% of Claim Settlement	38.79%	56.12%	65.35%	63.42%	59.16%
Average % of claim Settlement		58.19%	64.59%	77.66%	90.59%	68.58%

Class wise amount of raised claim's claim settlement amount and percentage of claim settlement rate

Table-2

(BDT Crore)						
Year	Indicator amount of	Fire	Marine	Motor	Miscellaneous	Total Claim Settlement
2015	Claim Raised	1476.32	398.30	145.90	157.34	2177.86
	Claim Settled	746.81	145.30	82.76	53.68	1028.55
	% of Claim Settlement	50.59%	36.48%	56.72%	34.12%	47.23%
2016	Claim Raised	1375.40	374.03	159.97	166.56	2075.95
	Claim Settled	553.85	196.08	85.65	70.16	905.74
	% of Claim Settlement	40.27%	52.42%	53.54%	42.12%	43.63%
2017	Claim Raised	1707.45	452.27	189.31	364.51	2713.54
	Claim Settled	462.22	180.75	96.07	231.03	970.07
	% of Claim Settlement	27.07%	39.97 %	50.75 %	63.38%	35.75%
2018	Claim Raised	2224.37	461.63	152.59	294.46	3133.05
	Claim Settled	907.03	162.66	92.59	118.32	472.23
	% of Claim Settlement	40.78%	36.38%	60.68%	40.18%	40.87%
2019	Claim Raised	1680.60	506.02	144.40	232.64	2563.66
	Claim Settled	815.73	178.83	98.59	101.56	728.91
	% of Claim Settlement	48.54%	27.81%	68.28%	103.87%	52.07%
2020	Claim Raised	1902.49	500.71	110.13	244.24	2757.57
	Claim Settled	538.29	176.61	65.35	91.04	871.29
	% of Claim Settlement	28.29%	35.27%	59.34%	37.27%	31.60%
2021	Claim Raised	2090.16	457.79	113.59	201.69	2863.23
	Claim Settled	761.29	244.01	66.42	53.67	1125.40
	% of Claim Settlement	36.42%	53.30%	58.48%	26.61%	39.31%
2022	Claim Raised	2057.41	560.88	123.55	252.09	2993.93
	Claim Settled	593.97	275.49	75.20	56.58	1001.24
	% of Claim Settlement	28.87%	49.12%	60.87%	22.44%	33.44%
Average % of claim Settlement		40.11%	47.25%	66.95%	52.85%	40.49%

It is seen from table-1 & 2 that during 2015-2022, the non-life insurance claim settlement rate (in terms of no. of claim) was 68.58%, which indicates that 32% claims, were not settled. Nonpayment is the main reason behind customer dissatisfaction. Some claims may not be settled due to valid reasons such as the risk may not be covered in the policy. These need to be explained to consumers clearly or else the dissatisfaction persists. On the other hand, the claim settlement rate was only 40.49% (on the basis of claim amount). The major reason behind this was the large amount of claims such as for fire insurance, claim settlement rate was relatively less, 40.11% only. Claim settlement rate was high (66.66%) in Motor Insurance and amount of claim settlement was high (90.59%) in engineering insurance.

Fire insurance had the lowest claim settlement rate (58%) and engineering insurance had the highest claim settlement rate (90%) in terms of number of claim settlement. The claim settlement rate for marine insurance was 64% and the claim settlement rate for motor insurance was 77%. On the other hand, claim payout ratio based on claim amount was lowest in fire insurance (40%) and highest in motor insurance (67%). 47% in marine insurance and 53% in engineering insurance.

3) Rate of claim settlement within 90 days.

Table-3

	2017	2018	2019	2020	2021
	81.3%	70.6%	83.9%	73.5%	76.7%

In non-life insurance, it is seen from the table-3 that the rate of claim settlement within 90 days was 80% - which means 22.8%⁽⁵⁾ of the intimated claims were not settled within stipulated time. The primary reason for this is - insured did not submit the papers such as GD, Fire Brigade report, survey report etc in time.

4) Actual Management Expenses, Allowable Management Expenses and Excess Management Expenses from 2015 to 2022.

Table-4

Year	Actual Management Expense (BDT Core)	Allowable Management Expenses (BDT Core)	Excess Management Expenses (BDT Core)	Percentage of excess Management over allowable limit
2015	859.43	557.57	301.86	54.13%
2016	870.92	597.44	273.47	45.77%
2017	930.78	693.05	237.73	34.31%
2018	989.28	954.06	35.23	3.69%
2019	1,086.03	1,112.06	-26.03	-2.34%
2020	1082.93	1160.01	-77.08	-6.6%
2021	1131.07	1178.87	-47.80	-4.05%
2022	1123.28	1132.22	-8.94	-.78%
Total			688.4	Average 15.51%

It is seen from the table that except 2019, 2020, 2021 & 2022 there were excess management expenses in 2015, 2016, 2017, 2018 and in 2020. During 2015 to 2022 total excess management expenses stands at 688.44 crores i.e on an average yearly excess management expenses was Tk. 86.55 crores.

Insurance companies earn income by investing premiums earned and when expenses exceed income, the company is unable to pay insurance claims. Table 4 shows that from the year 2015 to 2018 the actual management cost of non-life companies is more than the allowed management cost as per insurance act which is 34%. Due to the strict conditions of the Insurance Development and Regulatory Authority in this regard, the management cost has decreased beyond the permissible limit from year 2019 to 2022 which is a very positive sign.

5) Investment and Return on Investment (2015 to 2022).

Table-5

Year	Investment (BDT Crore)	Rate of Return (%)
2015	4883.85	7.96
2016	5188.85	7.71
2017	5854.93	8.57
2018	5984.55	7.10
2019	6324.67	6.88
2020	6839.32	8.12
2021	7913.96	15.75%
2022	8492.00	7.30%

Earnings from investment increases the assets and capital of a company. From table-5, we can see that in the first 5 years, earnings from investment decreased. Insurers earn a large portion of their income by maintaining fixed deposits with banks and financial institutions. During 2022, the return on investment witnessed a decline in both the life and nonlife insurance sectors. Return on investment decreases to 7.30 in 2022 from 15.75 in 2021. Insurance sector is closely linked to banks, financial institutions, capital market through investments. Disruptions in these markets can negatively affect the insurance sector.

Limitation of the study:

A structured questionnaire was sent to all non-life insurance companies but we got data from 38 companies out of 46 companies.

Reasons for which the claim remains unsettled & reasons for taking more than 90 days in payment of claim :

A structured questionnaire was sent to all non-life insurance companies to know the reasons for which the claim remains unsettled, to know the reasons for taking more than 90 days in payment of claim and to know what steps can be taken for speedy payment of claims. Following are the compilation of the opinion of 38 insurance companies out of 46 non-life insurance companies.

a) Reasons for which the claim remains unsettled:

SL	Reasons	Frequency
1.	Delay in supply & submission of documents by the insured	32
2.	Delay in receiving reports from Police, Fire Service, Port Authority and other parties	10
3.	If the insured objects to the claim amount determined by the surveyor	8
4.	Failure to get timely approval from reinsurance company in case of large claims	7
5.	Delay in receipt of survey report	5
6.	Prolonged claims and court proceedings	4
7.	Unintentional and intentional misrepresentation by insured	4
8.	Raising of unreasonable insurance claims by the insured	3
9.	If the insured fails to prove such that the damage caused by the risk covered under insurance.	3
10.	Delay in receipt of expert report	2
11.	Delay in approval of leader company in respect of co-insurance claims	1
12.	Non-existence of departmental supervision committee of some insurer and non-existence of amicable claim settlement practice	1
13.	Insurer's unwillingness to settle claim	1
14.	Non-renewal of driver's license in motor and marine insurance	1

b) Reasons for taking more than 90 days in payment of claim:

According to the insurance act, the claim has to be paid within a maximum of 90 days. In many cases the claim is not paid within 90 days. So, the reasons for this need to be analyzed and resolved. As per the information provided by the insurance companies, following are the reasons for taking more than 90 days in payment of claim.

SL	Reasons	Frequency
1	Delay in supply & submission of required documents by the insured	22
2	Delay in receiving reports from Police, Fire Service, Port Authority and other parties	14
3	Delay in obtaining approval from reinsurer	9
4	Delay in receipt of survey report	7
5	Objection of the insured to the insurance claim amount presented by the surveyor	6
6	Delay in approval of leader company in case of co-insurance	5
7	Delay due to litigation process when insured files a case in the court	3
8	Fraudulent and unjustified insurance claims raised by the insured	2
9	Delay in receipt of Insurer's right of recovery report in case of third party liability in marine insurance	1
10	Lack of insured's knowledge about insurance	1

Recommendations for quick claim settlement:

According to the information provided by different non-life insurance companies and analysis of the information, the following recommendations have been made for quick claims settlement:

- ❑ According to the opinion of the Insurance companies, necessary papers & documents are not provided by insured (customers) on due time to settle the claims. Even then, insurance companies should come up with alternatives that can simplify claim settlements & ensure proper documents are collected beforehand to provide on time claim settlement. Otherwise, the insured's (customer) trust won't be achieved.
- ❑ The information & documents that can be taken at the time of insurance contact, needs to be taken for faster claim settlement. Besides, information that needs to be collected afterwards i.e. after claim intimated needs to be collected as soon as possible or possibly through online.
- ❑ One of the reasons for the delay in payment of non-life insurance claims is that there is a discrepancy between the amount of the claim raised and the amount of the claim mentioned in the survey report and in some cases the actual cause of loss is not covered under the insurance policy but the customer does not want to understand it. Insured think that the insurance company basically does not pay the claim.
- ❑ Claim settlement time could be lessened from 90 days & IDRA could take steps on it. Besides, for quick claim settlement, companies could form separate special committee for claim settlement.
- ❑ The terms and conditions of insurance policies are not explained to the customers in most cases. Therefore when clients do not get their desired claim, they think insurance companies do not settle claims at all. The real reason could be that the peril is not covered under the policy. Therefore, clients should be made clear about the terms and privileges of the insurance policies. Otherwise, people lose trust in insurance.
- ❑ Timely submission of reports by police, fire service, port authority and other parties should be ensured. IDRA may take initiative in this regard.

- To create cooperative attitude among the insured's in submission of necessary documents and other matters to the insurer.
- When the insurance sector will be automated, the claim settlement rate will be higher. So, digitization in claim settlement can boost up confidence among mass people.
- Some non-life reinsurance claims take even 2-3 years to receive from Shadharan Bima Corporation which doesn't happen in case of foreign re-insurer.
- Concern department of Insurance Companies (claim department) should be sincere in submitting reports from various parties on time.
- Taking steps to improve the skill of the manpower through training.
- Taking steps to improve ethics of all concerned.
- Prevention of fraud by the insured.
- Ensuring professional conduct of insurers, reinsurers, surveyors and all concerned
- Promotion of survey system to international standard
- Recruiting skilled manpower in insurance companies
- Prompt submission of loss voucher of approved claim to the office of insurance companies.

Conclusion:

If non-life insurance claims are not settled timely & properly, insured will lose trust on insurance and it is a hindrance on achieving the goal of the National Insurance Policy of 'All property must be insured'. When claim is settled, insured understand the importance of insurance. Henceforth claim settlement should be given the topmost priority. Without optimum customer care, non-life insurance business cannot be expanded.

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Leveraging Advanced Technology for Micro-insurance and Protection-Gap

Dr. Nurur Rahman

Micro-insurance refers to insurance products and services designed specifically for low-income individuals and families, often in developing countries. It provides coverage for risks and offers financial protection against various uncertainties, such as illness, accidents, death, natural disasters, and crop failure. The main objective of micro-insurance is to promote financial inclusion by making insurance accessible and affordable to those who are traditionally excluded from the formal insurance sector.

The concept of the protection gap is closely associated with micro-insurance. The protection gap refers to the difference between the insurance coverage needed to protect individuals and their assets against risks and the actual coverage they have. In other words, it represents the extent to which people are underinsured or lack insurance altogether.

There are several reasons for the existence of the protection gap in micro-insurance. Some of the key factors include:

1. **Affordability:** Traditional insurance products may be unaffordable for low-income individuals due to high premiums or complex pricing structures. Micro-insurance aims to address this issue by offering affordable premiums and flexible payment options tailored to the needs of the target market.
2. **Accessibility:** Limited physical access to insurance providers and lack of awareness about insurance options contribute to the protection gap. Micro-insurance programs often utilize alternative distribution channels such as mobile technology, community-based organizations, and micro-finance institutions to reach underserved populations.
3. **Product Design:** Standard insurance products may not align with the specific needs and risks faced by low-income individuals. Micro-insurance products are designed to be simple, relevant, and customized to address the particular risks prevalent in the target market.

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4. Trust and Perceived Value: Low levels of trust in insurance providers, lack of understanding about insurance benefits, and skepticism about claim settlements can also contribute to the protection gap. Micro-insurance programs often focus on building trust, providing transparent information, and delivering timely and efficient claim processes to address these concerns.

Reducing the protection gap requires a multi-faceted approach involving collaboration between insurance providers, governments, regulators, and development organizations. Efforts should be made to enhance financial literacy, develop appropriate and affordable insurance products, strengthen distribution channels, and promote effective risk management practices. By narrowing the protection gap, micro-insurance can play a crucial role in building resilience and improving the well-being of low-income individuals and communities.

The application of advanced technology, such as artificial intelligence (AI), machine learning (ML), data science, and advanced analytics, has the potential to further enhance micro-insurance and bridge the protection gap. By leveraging these technologies, micro-insurance can become more efficient, effective, and inclusive.

One significant impact of advanced technology on micro-insurance is the improvement of risk assessment and underwriting processes. AI and ML algorithms can analyze large volumes of data, including demographic information, historical claims data, and external risk factors, to develop more accurate risk models. This enables insurance providers to assess risks more precisely, leading to fairer pricing and better coverage options for low-income individuals.

Moreover, the use of advanced technology can streamline the insurance application and claims processes. AI-powered chatbots and virtual assistants can assist policyholders in submitting applications, answering queries, and guiding them through the claims process. This not only improves customer experience but also reduces administrative costs for insurance providers, making micro-insurance more accessible and cost-effective.

Data science and advanced analytics also play a crucial role in product design and innovation. By analyzing large datasets, insurers can gain

insights into customer behavior, preferences, and risks. This information can inform the development of tailored micro-insurance products that better align with the specific needs and risks faced by low-income individuals. For example, data analysis can identify emerging risks related to climate change or specific health issues prevalent in certain regions, allowing for the creation of targeted micro-insurance coverage.

Additionally, the use of advanced technology can improve customer engagement and education. Interactive mobile applications and online platforms can provide policyholders with personalized recommendations, tips for risk prevention, and real-time notifications about relevant coverage. These tools enhance accessibility, empower low-income individuals to make informed decisions, and improve their understanding of insurance benefits and options.

While the integration of advanced technology brings immense opportunities, it also poses challenges. Ensuring data privacy and security is crucial to maintain the trust of policyholders. Robust data protection measures must be implemented to safeguard sensitive information and comply with regulations. Additionally, efforts should be made to bridge the digital divide and ensure that low-income individuals have access to the necessary technological infrastructure and digital literacy.

By leveraging advanced technology, micro-insurance can become more efficient, affordable, and accessible, ultimately narrowing the protection gap, and better serving the needs of low-income individuals. However, it is also important to address challenges related to data privacy, security, and digital divide to ensure responsible and inclusive implementation of technology in micro-insurance.

Impact of 4th Industrial Revolution (Industry 4.0) on Insurance Sector

Dr. Md. Ibrahim, PhD, ABIA, L.L.B

1. Introduction

Fourth Industrial Revolution was originally developed by the German government to create a coherent policy framework to maintain Germany's industrial competitiveness. Related terms used internationally include Internet of Things, Internet of Services, Industrial Internet, Advanced Manufacturing, and Smart Factory. Industry 4.0 is the realization of the digital transformation of the industry, which brings real-time decision-making, increased productivity, flexibility and agility.

Klaus Martin Schwab is a German engineer, economist and founder of the World Economic Forum (WEF). While Klaus Schwab came up with the concept of the fourth industrial revolution in the 2016 book as mentioned above, we can argue that the beginning of the fourth industrial revolution was around 2014 with the advent of smart fabrics and online production management.

The function of connectivity is the main starting point of industry 4.0 which refers to software and cultural difference in our business (Bauernansl, 2014). Each and every organization should be increased their service and product quality for its suppliers, customers, and support organization's with efficiently as per their needs (Goasduff, 2015). At first the industry 4.0 was introduced in 2011 as a proposed by some stakeholders such as business men, politicians and academia for increasing the perfect competition in the manufacturing of German Industry (Gilhuber, 2017). The German government as adapted with this new concept in 2020 as high technology strategy (Alcin, 2016). Industry 4.0 is consisted with the progress of information and communication and integration of internet technologies and transformation of production system(Avsar,2016).Fourth industrial revolution transform the whole value of chain , showing updated ideas and schope to progress innovative products and services (Bag hare et al.,2015).

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Industry 4.0 will effect on many aspects such as access to insurance stakeholders, setup of insurance premium, policy issues and damage of transaction (Banger, 2017). Due to the impact of industry 4.0 insurance sector will offer new generating product and other opportunities based on the needs of stake holders (Shafiq et al., 2015). Incase of self-driving autonomous vehicles, conversion of auto insurance is must (Blum, 2016). Abnormal practice of a driver to acceleration and breaking suddenly , but due to the automation it could be identified which road was used , was it suitable or not (Soh and Unkefer,2014). In case of an accident, when accident will be occurred , time , weather , braking speed etc. will be automatically calculated which will be rich data set for settling claim and will be easy for determining premium rate , terms and conditions of the insurance policies.

2. Historical Background of Industrial Revolution from 1.0(1st) to 4.0(4th):

Every event has a historical back drop, Industrial revolution is also not from that exception. The first industrial revolution (industry 1.0) was introduced in Great Britain in 1712 – 1765 by the invention of steam machine. It eas a tenure of scientific and technological expansion in the 18th century that transformed speedily rural, agrion society significantly in Europe and North America in to industrialized urban ones. Historical process has been shown in Fig: 1 (Kesayak, 2019) (History.com Editors updated, March, 2023)

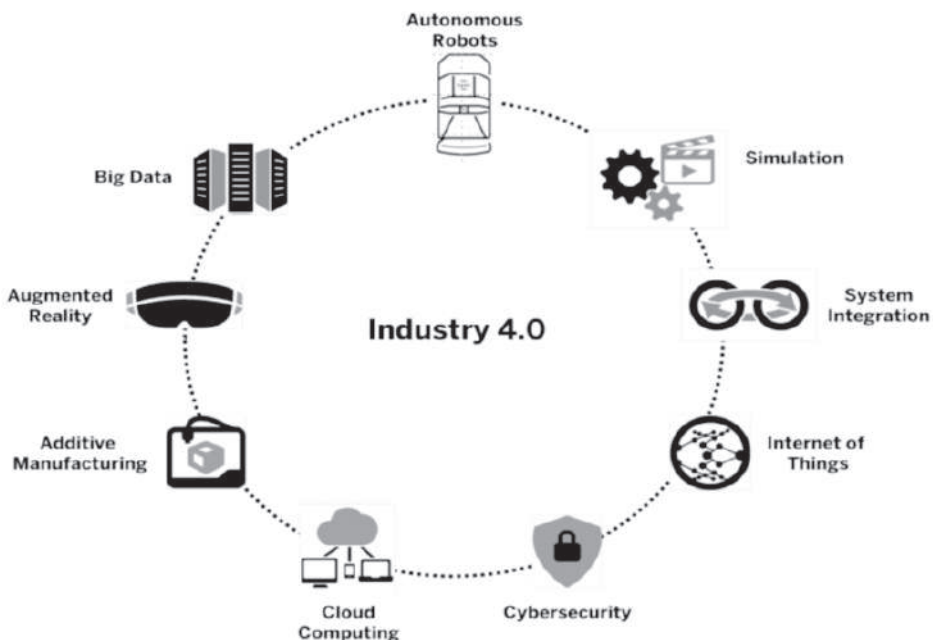
Figure 1. Theoretical explanation from 1st industrial revolution to 4th industrial revolution:

Application of Mechanical Production Facilities	Transition to Electrical and Work-based Serial Production	Automation of Production Processes	Autonomous Machines and Virtual Environments
<i>18th century</i>	<i>19th century</i>	<i>20th century</i>	<i>21st century</i>
<i>1712 Invention of the Steam Machine</i>	<i>1840 Telegraph and 1880 Phone Inventions</i>	<i>1971 First Microcomputer (Altair 8800)</i>	<i>1988 AutoIDLab (MYTH)</i>
	<i>190 Taylorism (Scientific Management)</i>	<i>1976 Apple I (S. Jobs and S. Wozniak)</i>	<i>2000 Internet of Things</i>
			<i>2010 Cellular Carrying System</i>
			<i>2020 Autonomous Interaction and Virtualization</i>

The Second Industrial Revolution (Industry 2.0) was introduced in Britain, Continental Europe, North America and Japan by the invention of Gas, Electricity oil(Combustion Engin) in 1870. Due to the impact of industry 2.0 the rapid expansion of large scale production and communication made mlife too faster. The lives of people was regulated by clock rather than Sun due to the growing up of the cities, factories during the late 19th to early 20th centuries. This revolution was based on coal, and development of iron and steel manufacturing, the railways, inorganic chemistry and so on.

The third industrial revolution (Industry 3.0) was started with the automation of production system. It was involved with electronics and nuclear through partial automation using memory, computer and programmable controls in 1969 in the 20th century (Banger, 2017). Fourth Industrial revolution (industry 4.0) is a complete shape of all technologies. It is going on the basis of cyber physical system, objects, internet of services and internet of things. This system is going to contribute to the formation of intelligent factories objectives. The 4the industrial revolution is connected with the three major dimensions (wang et al., 2016). First one is Internet of things (IoT), second one is Internet of service (IoS), third one is Cyber Physical System (CPS). **These dimensions of industry 4.0 has been shown in Fig- 02.**

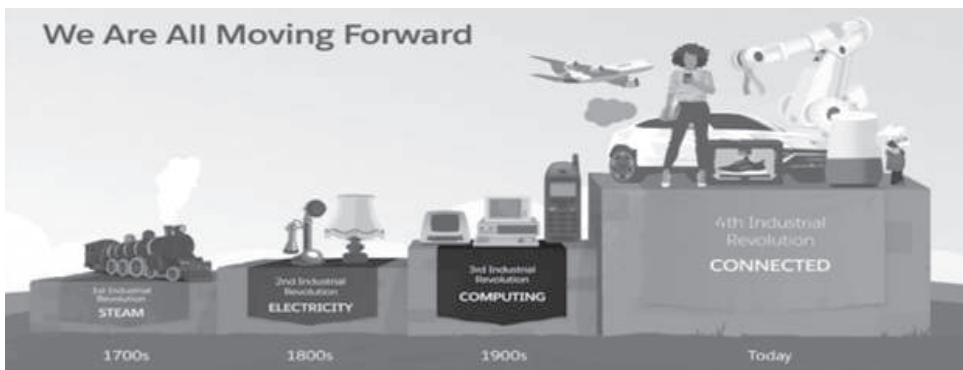
Figure 2. Structure of Industry 4.0 (Kesayak, 2019)



• Internet of Things • Internet of Services • System Cyber-Physical Systems

The main objectives of industry 4.0 to bring all IT and industry combine as a whole (fig-02). The first main dimension is the new generation software and hardware, which will provide low cost, less space, consuming, less heat efficient etc. The second and most important dimension is the device based internet (internet) which deliver the exchange of data and information based on cyber physical system with each other. Besides, by using cyber physical system, the manufacturing process is coordinated and optimized by themselves. We can show the chronological historical process of industrial revolution (From 1.0 to 4.0) by the following Fig-03.

Figure 3. Symbolic Chronological order of All Industrial Revolutions:



Industrial Revolution (from 1.0 to 4.0) is consisted with main three objectives (Wang et al., 2016). First objective was to minimize the labor cost and reduced the error of the production system. Second objective was to relaxation in production system and probability of designing goods and services and third one is to spread up the production system.

1. Objectives of the Study

The followings are the main objectives of the study:

- To analyze the historical chronological order of industrial revolution
- To analyze the impact of industry 4.0 on insurance sector
- To recommend regarding the adaptation strategies for insurance sector with industry 4.0

2. Research Methodology

This study was conducted based on secondary data. It is a qualitative research. Data has been collected from various journals, books, internet etc.

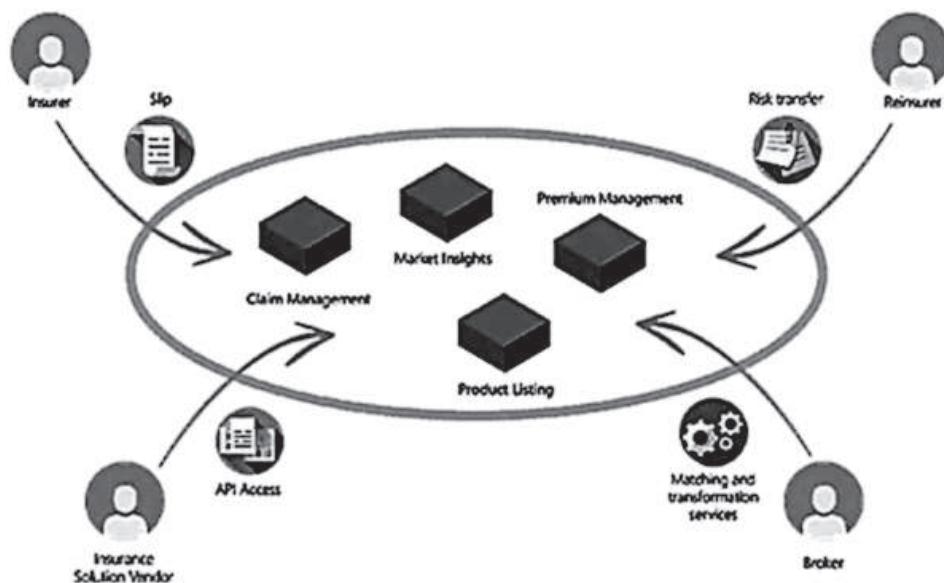
3. Insurance Sector and 4th Industrial Revolution:

According to the American Association of Risk and insurance , Insurance can be defined as the collection of accidental losses in single shape by transferring the selected losses and transferring them to the insurance organizations agreed to satisfy their material damages connecting to the losses and requirement of the risk related services (Rejda,2008). Insurance is one of the modern dimension in our society, which protects our property and lifes from various dangers by protecting against economic, climatic, technological, political and demographic risks (Insurance Europe, 2012).

There are two main segments of insurance. One is life insurance and another is non-life insurance. Sometimes non-life insurance is called 'General insurance'. Nonlife insurance policies covers all accidental loss or damage against property. Indian sub-continent is a vast territory having rich culture and ancient civilization. Some Indian insurance expert stated that: "The Sanskrit term 'Yoga Kashema", meaning insurance is found in the Rig-Veda"(T.K Desai, B.A, L.L.B FFII, Bombay).

Marine Insurance is the ancient form of insurance which introduced in 12th century in the northern Italy and next in the U.K during the 13th century. A blooming insurance sector is a precondition for a sustainable economic growth in any country. In the insurance sector, there are many actors such as insured, insurer, insurance intermediaries, regulatory and supervisory agencies, insurance adjusters and reinsurance companies the operation of the insurance system is given in figure 4.

Figure 4. Insurance System, (<https://www.ixledger.com/solutions/>)



If the Industry 4.0 strategy is realized, the amount of energy needed for production time, costs of production will be reduced, and production quantity and quality will increase (Kesayak, 2019). People who need insurance and have insurance are called policyholders. The insured transfers a certain amount of risk to the insurance company. An insurance contract is issued between the insurance company and the insured. The insured buys the insurance policy from an insurance policy or insurance broker. Insurance agents include insurance agents, brokers, banks, and the Internet. Industry 4.0 will affect all industries in all areas, including the insurance industry. Insurance is an industry based on knowledge of risk and future marketing. There are many factors such as insurance customer preferences, policy prices produced, claim processing, premium collection, claim payment and insurance distribution channels. With Industry 4.0, the insurance industry will undergo changes. In particular, some changes will directly affect the insurance industry. These

- **Machine Learning intelligence**
- **Internet of Things**
- **Artificial intelligence**

Machine Learning in Insurance: Machine learning is mainly a sub-branch of computer science developed in 1959 based on numerical learning and model recognition studies of artificial intelligence (Alkan, 2019). Machine

learning is a system that learns the structure and function of algorithms that can learn as structure functions and predict data. Such algorithms work by constructing a model to make estimates and decisions based on data from sample inputs, rather than strictly following the instructions of a static program (Hasçelik, 2018).

The list of major concepts of machine learning is as follows:

- Supervised Learning: Data is organized in a specific order from interactive systems
- Unsupervised Learning: Examining the groups within the classless data
- Semi-Supervised Learning: This concept is precisely one of the above two concepts and is to use a small amount of data labeled with a large amount of unlabeled data.
- Reinforced Learning: An evaluation of the instructor, either right or wrong, for the outcome of the system.
- Intensive Learning: Also known as hierarchical learning. This learning method is a machine learning developed by a series of algorithms based on model attempts using high level abstractions in data generated from many linear and nonlinear transformations and multiple processing layers in Deep graphs. Machine learning as a scientific endeavor has historically emerged in the study of artificial intelligence. Some academic research in the past has shown that machines need to learn data after a certain stage. Therefore, the researcher has conducted his research to approach the issues raised in this problem in various symbolic ways. Probabilistic logic methods have been used especially in automated medical diagnosis systems (Alpaydyn, 2010).

Areas of Use of Internet of Things (IOT) in Insurance

Over the past 20 years, industry-based robotics, intelligent sensors, cloud computing, cyber security, etc. There are many techniques. The most important of these is the Internet of Things (IoT). This cycle consistently focuses on individual customer requests and includes product development and product order services, starting from the idea stage, to the end user, including product distribution and recycling to the end user. IoT consists of the initials of the statement Internet of Things. IoT is a network where

objects can access the Internet and communicate with each other or with larger systems (Büyük and Öz. 2017). Almost all physical objects (automobiles, kitchen appliances, appliances, and even living things) can be connected to each other through IoT, either by providing access to the Internet or by larger systems. Nowadays, since most electronic devices are smart, more devices will be added to this list in the next few years (Çevdar and Öztürk, 2017). Nikola Tesla, the famous scientist who didn't think it was worth making money from people. His inventions stated that the devices we use today will be replaced by smaller and more practical devices and this can be achieved by transforming the entire world into a giant brain when wireless technology is fully utilized.

Some of the real life and speculative examples are:

- Sensors placed in the infrastructure of commercial centers can monitor environmental hazards Such as smoke, mold or toxic gases, allowing for environmental regulations, viz A potential hazard or at least a reduction in the effects of the hazard.
- Wearable sensors can monitor the movement of personnel in high-risk areas and send real-time data Allows employers to warn employees of potential hazards and mitigate them at the same time Risk of Fraud in Workplace Accidents.
- Intelligent home sensors detect moisture in wall and pipe leaks and send an alarm. The homeowner before the pipe burst. Both of these can save insurance companies a huge amount of reimbursement and substantial inconvenience and irreparable harm to the landlord. The same can be said for Internet of Things sensors, which are placed on business properties and commercial machines. These sensors can also reduce the risk of property damage, employee and customer injuries, and work disruptions.

Artificial Intelligence and Insurance Sector

Artificial intelligence technologies are currently used in our work, in our car, in our home technology. Four technology trends that are closely tied to artificial intelligence are expected to lead the insurance industry in the future (Stefan, 2018). Artificial intelligence solutions, a unique blend of technologies such as machine learning and natural language processing, are expected to find more space in the insurance sector. Artificial intelligence technologies that continuously learn from the feedback from their users and

the services that these technologies offer will greatly change the insurance marketing and insurance-client relationship, while helping to ensure high efficiency in the operational processes of insurance companies. Artificial intelligence and its associated technologies are expected to have a seismic impact in all areas of insurance, ranging from distribution to pricing and underwriting. Digital technologies and data are also today affecting distribution and underwriting, with real-time pricing and purchase of policies (Utkueri and Tamer, 2018).

Rapidly spreading of connected devices and data: Sensor devices are currently available in many industries, but in the following years there will be a large increase in connection rates with different devices (Ergun, 2017). Current connected devices develop very rapidly; clothes, glasses, home / kitchen appliance, medical tools and shoes will appear as many items that can be connected. These developments will allow companies to get to know their customers more deeply. (<https://www.metlife.com.tr/blog/sigorta/yapay-zeka-sigorta-sektorunu-nasil-donusturuyor/>).

Robotic expansion: There are many exciting successes in the field of robotics. This technology will continue to change how people interact with their environment. The three-dimensional printing technique will radically shape commercial insurance products in the future. By 2025, buildings constructed with three-dimensional printing will increase significantly and the risk assessment of insurers will change radically. In addition, autonomous drones, driverless vehicles, autonomous farming tools and surgical robots will become widely commercialized over the next decade (<https://www.metlife.com.tr/blog/sigorta/yapay-zeka-sigorta-sektor-ununasil-donusturuyor/>). By 2030, the rate of driverless vehicles is expected to reach 25%.

Developments in Cognitive Technologies: Deep learning technologies used primarily in image, sound and unstructured writing processes will evolve in the future and can be used in much larger scale applications. These cognitive technologies will become the standard approach for processing data flows that are incredibly large and complex, produced by insurance products based on human behavior. With the increasing use of such advanced technologies in commercial life, insurers will be able to access models that adapt to the world around them by learning continuously. Thus, real-time products and techniques can be developed to respond to changing risks and behaviors.

4. Impact of 4th Industrial Revolution on Insurance Sector:

Insurance sector is a vital sector in the economy of whole over the world. A significant contribution of GDP comes from insurance sector. Industry 4.0 has a significant effect in all sector including insurance sector. All sector are felt industrial digitalization such as automotive manufacturing whitegoods andA electronics and exporter firms and in addition such as pharmaceuticals, aviation, insurance, logistics, software affected by industry 4.0. We can summarize the impact of industry 4.0 on insurance in the following ways:

- Surfacing /disclosing on line insurance market and merging risks.
- Revolutionary segregated allocation pilotless automobiles, cooperative economic environment.
- A large number of stakeholders in increasingly commoditized atmosphere, earn loyalty will depend on innovative dimension and it will be significant.
- To perform a better activities will be more signified than their competitors due to the capability of the stakeholders to purchased commodities.
- A lots of networking devices and apps are available for personalize the insurance by insurers.

Telematics system is playing an important role in creating a transparent bridge between customs and insurance companies. Mobile, wearable technology products and intelligent systems can provide innovative business processes, digital data, real-time data transmission, monitoring systems, etc. A smart system can provide data based on daily habits. Currently motor vehicle premium is calculated based on many factors like car speed, bad road entry, age of the vehicle, this can provide lower or higher rate of premium. As a result, it can be customized low cost motor insurance policy.

How Will Artificial Intelligence Affect the Insurance Sector?

The following five examples illustrate how artificial intelligence will affect the insurance industry in the near and distant future.

- Customizing the Customer Experience
- Understanding Customer Experience

- Simplifying and Regulating the Demand Process • Fraud Prevention • Improving Insurance

Customizing the Customer Experience:

With the technologies like Robotic Process Automation, Your relatively laborious jobs such as data entry can be taken from outside service providers. Artificial intelligence brings a new dimension to productivity and probability, especially for deepening customer engagement and relationships and promoting growth (Stefan, 2018). Today, insurance agencies are currently using artificial intelligence in customer service, in answering simple questions with chat robots, and in directing demands. In the future, employers can offer additional benefits with specialized chat robots that provide personal advice in health or medical counseling (Utkueri and Tamer, 2018).

Understanding the Customer Experience:

When used in combination with other technologies such as artificial intelligence, Internet of Things, and machine learning, insurance agents can also provide insight into the behavior of customers and indirectly the risk (Stefan, 2018). For example, some vehicle insurers will be able to offer customers discounts on drivers with safe habits by placing sensors to track their driving.

Simplifying and Regulating the Demand Process:

The demand process still contains information from more than one person. It is a fact that a traditional vehicle damage compensation process is completed by three to four persons and completed in 10-15 days. The demand process, which is not touched by the human hand, removes the people from the equation in many processes from artificial intelligence and robotic process automation to the examination of damage pictures, to communicating with customers and paying. The potential for artificial intelligence to accelerate the demand process can go beyond car insurance, and can be valid in life, disability, health and more (<https://www.metlife.com.tr/blog/sigorta/yapay-zeka-sigorta-sektorunu-nasil-donusturuyor/>).

Fraud Prevention: One of the most promising uses of artificial intelligence in the industry is the prevention of fraudulent demands. With the help of

artificial intelligence and machine learning, computers can detect fraud and can produce better results (OECD, 2017).

Improving Insurance:

Artificial intelligence technology also has the potential to improve by completely changing the insurance process. Machine learning can replace classical statistical risk measurement models and, without doubt, improve the industry to save hundreds of millions of dollars. Artificial intelligence chat robots and other emerging technologies will affect the insurance industry. Brokers and agents will be able to obtain customer insights and engagement information that they have not previously had access to using these technologies. In this way, insurance companies can add value to existing customers by bringing the products and services they offer beyond collateral, to attract new ones and to increase their revenue at the end.

How Will the Internet of Things (I o T) Affect the Insurance Sector?

Insurance is one of the oldest industries in the world. The idea of sharing risk has been around for 5,000 years in the past when Chinese merchants combined their cargo in many ships. Risk; have merchant insurance that their property will not be completely destroyed in the case of shipwreck (Chowdar et al Ozturk, 2017). Although today's buyers are less likely to shop abroad, the basic method of insurance has not changed much. However, the insurance industry is being ushered into a new era with the help of the Internet of Things. This technology has the power to transform insurance, but it also has challenges (Rouse, 2016).

The insurance claims process has not changed for years and is inconvenient for consumers. Loss of customers due to reduced loyalty and unsatisfactory experience; Life, property and casualty insurance premiums are very competitive. Consumers use technology in their daily lives and expect companies to do the same. However, IoT allows insurance companies to be able to move faster and make data-driven decisions. Companies do not have to deal with paper documents and can manage the application process more efficiently.

Data from connected devices allows insurance companies to get to know their customers better level with more accurate personal information. This can help you build a strong bond with your customers and adding an element of customization to the insurance industry that has been lacking for

a long time. In addition, insurance companies can more easily detect fraud, offer personalized products and calculate risks more accurately.

Using I o T helps improve insurance costs and improve customer experience. Automation can reduce application process costs by up to 30%. In some cases, these savings can be demonstrated in the price offered to customers (Kutsal, 2017). For example, the car insurance policy for your current car is calculated based on some basic criteria. The age of your car, your age, your accident-free status and general history, the state in which you live, and sometimes your job all affect the cost of your insurance policy. However, the average speed of your car, the wrong road, the wrong parking, the wrong turn, hundreds of criteria to indicate whether it will return can cause your insurance policy to be low or high. At this point, Insurtech solutions can be integrated with technologies such as the Internet of Things to offer a variety of solutions to the market. Therefore, the company gets more customers, users can also get policy solutions at an affordable price. Insure-tech offers fast, flexible and diverse solutions for the insurance industry, while allowing traditional companies to engage with their users (Yeniyova, 2007).

Many insurance companies believe that connected devices and a lot of data will prevent larger losses. This can reduce the number of claims and lower insurance prices for low-risk consumers. With data obtained from devices in health insurance, a person's health can be monitored and products and policies can be recommended based on this data. Many insurance companies; they believe that adapting data-rich applications before they become widespread in the market will give them a competitive advantage. Despite the growing challenges, many companies are already realizing that the IoT will have a transformative impact on the industry and the customer experience. In a regulated industry like insurance, leveraging new IoT technologies is one way companies can move forward and approach their customers in a more promising way.

5. Conclusion and Recommendations:

Digital transformation, directly or indirectly, shows its effect in all stages of our lives; it causes sudden and rising chaos. Therefore, change is not a self-sufficient process, but rather a cycle that continues with the emergence of new and partially destructive technologies. In recent years, companies operating in different sectors (especially banks) have been developing new

strategies by feeling the threats created by the internet and they are promoting their customers to adopt digital solutions and promote their active use.

One of the most important preconditions for the realization of the industry 4.0 revolution is that Companies have completed their digital transformations. It is not possible for institutions that have not completed their digital infrastructure and have not been able to operate the company culture in harmony with digitalization.

The biggest aim of Industry 4.0 is the production of robots that can communicate with each other, detect the environment with sensors and realize the needs by analyzing the data and take over the production of these robots; to create better quality, cheaper, faster and less waste production systems. Industry 4.0 will bring together the Information Technology and Industry, and will enable more efficient business models to emerge because the intelligent factory system will be created and each data will be collected and analyzed in a good way.

By integrating modern information and communication technologies, such as Cyber-Physical Systems, Cloud Computing in the manufacturing sector to increase efficiency, quality and flexibility, it will allow you to analyze the possible yield conditions and gain an advantage in the competitive environment. With new generation software and hardware, which means low-cost, low-energy, low-energy, low-heat, but also highly reliable hardware, unlike today's classic hardware, with operating and software systems to run this equipment; perhaps the most important component, all the devices on earth are used to exchange information and data with each other.

The increasing acceleration of digital technologies in daily life has also begun to show its results in the financial sector. How financial actors have benefited from digital technologies was not among the topics discussed so far. Today, the financial market makers, especially the insurance sector, benefit from the technology and the conveniences they bring in taking into account the interests of their customers.

Industry 4.0 is expected to have an impact on the insurance sector, which is a knowledge-intensive sector in particular. Industry 4.0; change the impact of production on the environment, employment and education policies.

New business models will be formed and mass productions will be carried out in a personalized manner. With the new industrial revolution, it will become even more important to ensure the risks that may arise in the production processes. Personalized products will reveal the need for personal insurance. The insurance sector will require trained, qualified and competent insurance agents and insurance adjusters. In addition, insurance models that provide the flexibility that the insurance companies cannot provide, and the start-ups developed will be in demand. For example, technologies such as calculating insurance costs, purchasing insurance on a trip or a holiday, or contacting the insured position with the insured in the relevant location is already developed.

Industry 4.0 offers numerous opportunities and threats for the insurance sector. Smart policies will provide many opportunities such as shortening of damage processes, meeting the demands and demands of insurance customers, fair solutions. However, due to technological developments, it will affect the insurance sector negatively due to the employment of smart robots and technological processes.

Recommendations:

- Insurance sector should be adjusted with the automation system and digital transformation for providing better services to their stakeholders.
- Insurance sector should be familiar with all digital devices and software and hardware for maximizing the profit of the companies.
- Insurance sector should be adapted with the production of robots that will identify the environment with sensors that will create faster. Cheaper and quality services for insured or stakeholders.
- Insurance sector should be realized to capture the cyber-physical system, cloud computing that will increase the quality of services and will bring more satisfaction of the stakeholders.
- Insurance sector should be introduce with new generation software and hardware that will bring low cost, low energy, low heat in service providing system.
- Insurance sector requires to familiar with modern technologies that will help for calculating the risks for well pricing.

• For enjoying the advantages of 4th industrial revolution, insurance sector requires trained qualified and competent professional and adjusters for utilizing the different patterns of digitalizations. In this context, data sharing models between technology companies and insurance companies such as google, Facebook, Apple and Amazon which have an intense data base of individual, would be more important and effective.

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The Doctrine of follow the Fortune-Cementing the Relationship Between Insurers and Reinsurers

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1. Introduction

For the sustainable operation of insurance services across the globe there should be a collaborative relationship between the reinsured and the reinsurers. Due to the colossal advancement of national economics in different parts of the world, there has been an unprecedented requirement of sophisticated tailored-made insurance services. So, the scope of coverage, limit of liability and insured values are nowadays much bigger. There is a sharp rise of high value insurance policies covering the limit of liability of a billion dollar, if not several hundreds of millions dollars. The mega project insurances – Padma Bridge Insurance, Metro Rail, Bangabandhu Satellite-1 insurance – the burning examples of such necessities of the market. This resultantly necessitated the appropriate reinsurance mechanism to be in place in order to address the capital adequacy requirement for the direct underwriters in many regulatory frameworks. In the truest sense, reinsurers are the enabler to insurers in all respects where ‘Follow the Fortune (FTF)’ clause paves the way for cementing the relationship to a greater height.

To define in simple terms, a ‘Follow the Fortune Clause (herein after ‘FTF Clause’), if it exists in a reinsurance contract, could be a provision that requires the reinsurer to follow the fortunes of the primary insurer. This means that the reinsurer would share in the outcomes and results (both positive and negative) of the underlying insurance policies reinsured. If the primary insurer faces losses, the reinsurer would be obligated to reimburse a proportional share of those losses.

2. The legal premise

The legal footing of the FTF clause rests with another dominant doctrine of the insurance, which is ‘uberrimae fidei’. Like the contract of insurance, reinsurance contracts are also of the perfect good faith, and it traditionally falls under the doctrine of ‘uberrimae fidei’. The principles of ‘uberrimae fidei’ is that parties to an insurance and reinsurance contract must act in most abundant faith, disclosing the material facts in the insurance proposal so as to facilitate underwriters to accurately assess the risks exposure in

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question and thereby to devise the rates and terms. From the other side of the coin, the reinsurers have to settle the claims in good faith.

Section 18 of Marine Insurance Act 1906 states that the assured must disclose to the insurer, before the contract is concluded, every material circumstance which is known to the assured, and the assured is deemed to know every circumstance which, in the ordinary course of business, ought to be known by him. If the assured fails to make such disclosure, the insurer may avoid the contract. This disclosure requirement is the starting point to foster the intimate relationship. Upon completion of the relationship circle, the FTF clause comes into the picture as the ending part to make sure that there is quick reinsurance recovery of the claims paid to the original insured.

Conversely; this doctrine fully contrasts with the legal doctrine ‘caveat emptor’ ("let the buyer beware").

3. The Historical background

By the year 1840 in France, it was gradually becoming customary for reinsurance contracts to include an express clause binding the reinsurer to indemnify the ceding insurer for payment of losses so long as the ceding insurer acted in good faith and could produce evidence of payment of the loss.

The Doctrine holds the peace of mind of the reinsured subject to the ceding insurer's claims decision so made reasonably and in good faith, and accurately in accordance with scope of the coverage and policy terms and conditions, and more precisely within the realm of the reinsurance contract.

This clause in effect removes the necessity of the reinsurers' new (de novo) review of the claims decision made by the ceding company.

The follow-the-fortunes doctrine provides an exception to the common practice allowing review of contract interpretation.

4. The essence of the FTC clause

Subject to the stipulations and limitations of this Reinsurance, the Reinsurer shall in all circumstances follow to the extent of its participation the fortunes of the Reinsured absolutely in all transactions falling within the

scope of this Reinsurance. The right of management of the Reinsured shall not be restricted by this Reinsurance.

The liability of the Reinsurer commences obligatorily and simultaneously with that of the Reinsured as soon as the liability of the Reinsured exceeds its net retention, and every cession made hereunder is subject to the same general and special terms, clauses, waivers, conditions, warranties, stipulations and endorsements as in the original insurances or reinsurances to which the cessions apply and shall follow changes in risk whether advised or not except in so far as they are contrary to the terms of this Reinsurance. Renewals of reinsurances shall follow renewals of original risks until advice to the contrary.

The fact that the Reinsured may have omitted to enter any cession rightly falling to the Reinsurer under this Reinsurance, or of any alteration thereto, or have made any error or omission in describing or advising any such cession or alteration or by error cancelled the whole or any part of any cession, shall not affect the liability of the Reinsurer, provided that such omissions, alterations or errors shall be corrected immediately upon discovery.

However, the liability of the Reinsurer shall not be increased by reason of the inability of the Reinsured to recover any amounts from any other reinsurer for any reason whatsoever.

5. Risks Management Toolbox for Insurers

The underwriting fortune of the reinsured (who purchases reinsurance from the reinsurance companies) is to be followed by the reinsurers in utmost good faith, whether it be profitable or loss-making for the particular reinsurers under a particular treaty year despite the fact that reinsurance companies are for-profit organization. Thus we can say that FTF clause clearly states that the indemnity obligation of the reinsurance company is to follow the fortune of the reinsured.

Under the shadow of the ‘uberrimae fidei’, the market has adopted the doctrine of the follow-the-fortune in the reinsurance treaty wording. The standard wording of the FTC clause reads as follows, the REEINSURER shall, subject to the term and conditions of this treaty, follow the underwriting fortune of the insurance company in respect of the risks which the insurers becomes liable to pay under its Insurance contracts and cover notes.’

The follow-the-fortunes doctrine posits that the reinsurer must follow the underwriting fortunes of the reinsured company and, therefore, is bound by the claims-settlement decisions of the ceding insurer unless it has evidence of fraud, collusion, or bad faith.

The basis of the reinsurance contract is the Follow the fortune clause, which provides for the desired compensation services for the ceding company with the parameter of the contract wordings, limit, and other specification. In most cases the FTF clause is interpreted in favour of the reinsured because the underlying purpose of conclusion of reinsurance contract is to pave the way for reinsurance recovery against the loss settlement to the original insured. At the same time reinsurers enter into contract not only to provide for capacity to the direct underwriters but also to make profit for their shareholders.

6. Is there any requirement to expressly mention the FTF clause?

No, absolutely not. Insurance and reinsurance practices worldwide confirm that the interpretation of the reinsurance must be based on the FTF doctrine whether it is mentioned in the contract or not. The general rules of interpretation of contract will not work on first instances, rather it is the doctrine of FTF will be applied as a basis of the contract. However; in proportional reinsurance treaties, it is most common to incorporate the FTC clause in the reinsurance contract.

7. Proportional reinsurance treaties and facultative placement issues

In the treaty cover notes there are some other clauses, all of which work in tandem with FTF clause. The class of business clause, the territorial limit clause, claims cooperation clause and the underwriting policy clause- all add meaning to the successful operation of FTC clause in the proportional and facultative reinsurance contract. It is clearly mentioned in the facultative reinsurance contract agreement that there should not be any ex-gratia payment on the part of the reinsured because facultative reinsurance company will not be part of any ex-gratia payment to the original insured.

8. Effect of FTC Clause in case of the non-proportional reinsurance

In the reinsurance world it is common not to insert the FTC Clause in the non-proportional reinsurance treaties since the underlying motive of the

non-proportional treaties as such they would work on excess of loss basis.

Once losses exceed the pre-defined excess points or deductible amount of the non-proportional treaty, the reinsurers start to pay under the provisions of the treaty. To put it simply, the loss amount exceeding a certain limit which is the retention limit of the insurance company are paid by the reinsurer, of course, up to a maximum limit as mentioned in the treaty cover note.

Here the lost fortune of the ceding company is acceded by the reinsurers. There is little or no implication of other underwriting or reinsurance issues which can play a vital role in the computation of the ultimate loss amount, only except for moral hazard. So, reinsurers have nothing to say if the pre-agreed limit is exhausted through payment of the losses. Again the FTC clause is an implied term for all non-proportional treaties whereas the proportional treaties contain the FTC clause in the cover notes.

9. Will the FTF clause create any issue with alterations clause?

Principally, it is not creating any issue. The alteration clause works basically with the conformity of the reinsurance documentation. Any amendments and/or alterations to Reinsurance contract are mutually agreed either by correspondence and/or brokers' slip endorsements. In most cases, any changes agreed by the parties hereto shall be formally documented by an exchange of correspondence signed by the parties or by the issue of a Reinsurance Addendum which shall be considered as forming an integral part hereof. Moreover; any changes made will be binding upon reinsurers as agreed upon.

10. Implication of FTC Clause in the bankruptcy

Under the shadow of the FTC Clause, the reinsurers are not bound to accept any other financial losses of the insurance company. For example, if the ceding company goes for liquidation, by the order of the competent authority, reinsurers would still enjoy the outstanding premium from the bankrupts' estate, which are the property belonging to the bankrupt at the commencement of the bankruptcy and certain 'after-acquired property' including surplus income, if any. On the contrary, the reinsurers would be responsible for the outstanding loss payment, as it would be the case if they are not subject to bankruptcy.

11. Reinsurers' rights of record inspection and FTC clause

The application of the FTC clause should be in confronting position with the application of the rights of inspection clause. Rather the both clauses should coexist in the certain reinsurance contract. For greater interests of the reinsurers, they can request the ceding company to allow them to inspect the insurers' record, books of business, accounts and anything pertaining to the business of the insurance covered under the scope of the reinsurance treaty. FTC clause would work well in case of the insurer's genuine loss settlement where the reinsurers must pay their share of the loss.

So, inspection of the record can be undertaken if and when the reinsurers deem fit, but the reinsurers have customarily to express their intention prior to inspection, at least, forty-eight hours ago. By the way, the underlying purpose of the inspection may be diverse. It may be for the better interest of the reinsured for improvement of the underwriting manual with a view to bringing about of the positive underwriting results for the reinsurers and insurers alike because reinsurers have to follow the underwriting fortune of the ceding company at the end of the day.

12. Faulty underwriting of the excluded perils and FTC Clause

The FTC doctrine would be in effect in case of the ceding of the certain risks that are clearly excluded from the treaty cover mainly because of the clear expression of the coverage provided under the treaty wording. So, any excluded perils would remain as excluded while application of the FTC clause. No form of mistakes or underwriting faults would be binding for the participating reinsurers. So, insurers have to place certain mechanism in place to monitor, review and check whether the underwriting manual is followed or not by the individual underwriting offices. Above all, follow the "fortunes" doctrine does not alter the terms or override the language of a reinsurance contract.

13. Several Liability of the Reinsurers

The FTC clause clarifies that the ultimate liability of the reinsurance company should be to the extent of participation in the reinsurance in question in case the reinsured should have failed to recover from any other reinsurance arrangement for any reason whatsoever, the liability of the treaty or facultative reinsurance company should not be increased so as to make any provision for the unrecovered amount. The liability of a Reinsurer is several and not joint with other Reinsurers, even if they are parties to the

same Reinsurance Agreement. So, FTF clause would not increase the liability of the reinsurers.

14. Does the FTF doctrine contradict with the errors and omissions clause?

Generally speaking, it does not contradict. The subject matter is different. What the errors and omission clause states is “any delays, errors or omissions made in connection with this Reinsurance or in connection with any risk ceded hereunder shall not be held to relieve either party hereto from liability which would attach to it hereunder if such delays, errors or omissions had not been made and it is further agreed that in all things coming within the scope of this Reinsurance the Reinsurers shall follow to the extent of its interests the underwriting fortunes of the Reinsured.” It is clearly covering the deferent arena of the contract but at the same time this clause strengthens the positions of the FTF clause and cultivate the collaborative relationship between the reinsured and the reinsurers.

Actually reinsurers should accept such types of errors and omissions that are committed on an innocent basis, without any deliberate activities. Besides; an insurer is reasonably expected to work in such a way as a competent insurer would act. To such extents, reinsurers must follow the actions or omissions of the ceding company. Even if there is any delay in submission of the information to the Reinsurers, the seating company will not be deprived of any reinsurance recovery against certain losses.

15. Claims Cooperation and Claims Control Clauses

It is commonly seen in the proportional treaty as well as facultative replacement that the claims cooperation clause makes sure the parties will co-operate with one another in the event of loss settlement and claims investigation. These clauses work in symphony with FTF clause.

Contrary to the above, the incorporation of cut through clause and claims control clause may create a different equation for the application of the FTC clause. The control clause states that the reinsured should not settle any claim without prior permission from the reinsurance company while cut through clause provide for direct payment of the claims proceeds to the original insured.

16. Repudiation of reinsurance claims and protection available for reinsurers

Reinsurers may request the procedures followed by the adjudication of a coverage dispute between an insurer and a policyholder. The reinsurers can make FTF doctrine immaterial and ineffectual once it can show that the reinsured involves in secret or unlawful cooperation with the original policyholders aimed at deceiving or gaining an advantage through claims settlement. Furthermore; if the circumstances show that the ceding company acted upon bad faith, then again reinsurers have the right not to comply the FTF doctrine.

17. Concluding lines

In any given context of the insurance world, the reinsurance mechanism is an inevitable part which from the core vitalize the direct insurance company making sure the necessary regulatory capital requirement to underwrite the risks is of significantly large size. With no or limited technical expertise, the ceding company can underwrite very complex risks in partnership with reinsurance market. So, it is clearly evidenced from the discussion above that FTF clause encompasses every possible angle of insurance and reinsurance mechanism. Which is why the clause may be an implied term for some form of reinsurance contract while it may sometime be an expressed term. Either way the FTF clause lays the foundation stone in cultivation of a thriving relationship between the insurance and reinsurance company.

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THE END
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