PROJECT REPORT

ON

"INFORMATION TECHNOLOGY INSURANCE ."

SUBMITTED BY

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ROLL NO. : 16

SEM V, T.Y.B.B.I.

UNDER THE GUIDANCE OF

MR. PRASHANT KOKANE

Submitted to University of Mumbai in Partial Fulfillment of the

Requirements for the Award of the Degree

of

BACHELOR OF COMMERCE (BANKING & INSURANCE)

PATUCK GALA COLLEGE OF COMMERCE & MANAGEMENT

SANTACRUZ (E), MUMBAI- 400055

2012-2013

CERTIFICATE

This is to certify that the project entitled "**INFORMATION TECHNOLOGY INSURANCE**." is a true and satisfactory work done by Ms. GEETA MARUTI PATIL, T.Y.B.B.I, Roll No. 16. The project report is submitted to University of Mumbai in partial fulfillment for the requirements of the award of the degree of "Bachelor of Commerce (Banking & Insurance)" for the academic year 2012-2013.

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Signature of Project Guide Signature of External Examiner

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Signature of the Coordinator Signature of the Principal

College Seal

DECLARATION

I, GEETA MARUTI PATIL, Student of Patuck-Gala College of Commerce & Management, T.Y.B.B.I (Sem. V) hereby declare that I have completed the project on "INFORMATION TECHNOLOGY INSURANCE." in the academic year 2012-2013.

The subject matter contained in this project is a research work and most of the work carried out is original and was done under the guidance of my project guide MR. PRASHANT KOKANE.

The information submitted is true and original to the best of my knowledge.

(GEETA MARUTI PATIL)

ROLL NO: 16

ACKNOWLEDGEMENT

It is my earnest and sincere desire and ambition to acquire profound knowledge in the study of management studies. I have had considerable help to advice ate very outset of this project. It is my pleasure to acknowledge the help and guidance that I had received from those personnel and to thank them individually.

First of all, I express my sincere thanks to Dr. (Mrs.) Meeta Pathade Principal for having given me a chance to undergo the project work.

Secondly, I convey my sincere thanks to the course coordinator Ms. Byshi Panikar for her valuable suggestions and co-operation which helped me to complete the project successfully.

The compilation of the project is a milestone in the life of the management student and its execution is inevitable without the co-operation of the project guide. I am deeply grateful to my project guide Ms. N. Nandini for her valuable ideas, required suggestions and encouragement for refining this project study.

Finally, I thank all the staff members and my friends for their valuable support and contribution to my project.

EXECUTIVE SUMMARY

Many information technology resumesstart with a statement stating the job-seeker's idealization of the specific IT position opening. These objective statements work extremely well for the candidates in obtaining their desired job.

In an objective for IT Resume, you should draw a direct relation between your skills, experience, trainings to the requirements of the job applied for. If you are an IT professional and decided to use an objective statement in your resume, remember to edit or rewrite it every time you send out your resume. Due to its increasing popularity in recent years, a lot of human resources professionals claim an objective statement can be very useful for identifying the right candidate.

In addition, such statements can help you getting a response if the position has already been filled, but the corporation still wants someone in an interrelated capacity, and your resume contains some appropriate skills and experience.

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CHAPTER 1

INTRODUCTION OF INFORMATION TECNOLOGY INSURANCE

Introduction

Insurance companies have adopted themselves to the new technology in order to run efficiently. Advantages of IT, importance of computerization, application of IT in insurance functions like underwriting, claims, marketing, etc., are discussed in this chapter. Changes with the technology sector of the insurance industry are occurring with unprecedented speed, travelling farther and impacting companies more fully than ever expected. Business drivers are leading insurers to look for technologies and business processes that are significantly different from anything they have used before. Driving forces such as market globalization, merger and acquisition activity, and the critical need to adopt market segmentation strategies are forcing companies to move to the information age at an unprecedented pace. Those unwilling to take more risks are left behind with unsatisfactory business levels, declining profits, and ultimately, inability to survive. In this chapter we take a look at how information technology (IT) is transforming the insurance industry in some very fundamental ways. We take a brief look at how IT was used in the past and look at the way current technology drives the insurance sector. We also look at how Business Intelligence (BI) is rapidly emerging as the tool for providing competitive advantage to an insurance company.

History

The Indian Government acquired the EVS EM computers from the Soviet Union, which were used in large companies and research laboratories. In 1968 Tata Consultancy Services—established in SEEPZ, Mumbai[6] by the Tata Group—were the country's largest software producers during the 1960s. As an outcome of the various policies of Jawaharlal Nehru (office: 15 August 1947 – 27 May 1964) the economically beleaguered country was able to build a large scientific workforce, third in numbers only to that of the United States of America and the Soviet Union. On 18 August 1951 the minister of education Maulana Abul Kalam Azad, inaugurated the Indian Institute of Technology at Kharagpur in West Bengal. Possibly modeled after the Massachusetts Institute of Technology these institutions were conceived by a 22 member committee of scholars and entrepreneurs under the chairmanship of N. R. Sarkar.

Relaxed immigration laws in the United States of America (1965) attracted a number of skilled Indian professionals aiming for research. By 1960 as many as 10,000 Indians were estimated to have settled in the US. By the 1980s a number of engineers from India were seeking employment in other countries. In response, the Indian companies realigned wages to retain their experienced staff. In the Encyclopedia of India, Kamdar (2006) reports on the role of Indian immigrants (1980 - early 1990s) in promoting technology-driven growth The ground work and focal point for the development of the information technology industry in India was led by the Electronics Commission in the early 1970's. The driving force was India's most esteemed scientific and technology policy leader M. G. K. Menon. With the support of the United Nations Development Programme (UNDP) under project IND/73/001, the Electronics Commission formulated a

strategy and master plan for regional computing centers, each to have a specific purpose as well as to serve as a hub for manpower development and to spur the propagation of informatics in local economies. The first center, the National Centre for Software Development and Computing Techniques (from 1973 onward) was at the Tata Institute of Fundamental Research in Mumbai and was focused on software development.[9] A key decision of the strategy was to not focus on large-scale hardware production but rather intellectual capital and knowledge development. The success of this decision can be seen in the global leadership of Indian entrepreneurs and computer scientists in software development. Jack Fensterstock of the United States was the program manager on behalf of the UNDP and the key advisor to the Indian Government for the implementation of the master plan.

The National Informatics Centre was established in March 1975. The inception of The Computer Maintenance Company (CMC) followed in October 1976. During 1977-1980 the country's Information Technology companies Tata Infotech, Patni Computer Systems and Wipro had become visible. The 'microchip revolution' of the 1980s had convinced both Indira Gandhi and her successor Rajiv Gandhi that electronics and telecommunications were vital to India's growth and development. MTNL underwent technological improvements. During 1986-1987, the Indian government embarked upon the creation of three wide-area computer networking schemes: INDONET (intended to serve the IBM mainframes in India), NICNET (the network for India's National Informatics Centre), and the academic research oriented Education and Research Network (ERNET).

CHAPTER 2

INFORMATION TECHNOLOGY INSURANCE

Pratt, Lambert & Brown Insurance provides **Information Technology organizations** like yours with quality, cost effective insurance solutions. Our first rate insurance expertise has been developed over many years by working closely with **computer consultants, programmers, web designers, and other IT professionals** like you.

Policies Designed for Your IT Organization

Our policies can cover your legal exposure for IT industry specific issues such as:

- Intellectual Property Rights
- "Hacker" attacks
- Viruses
- Contractual liability
- Negligence
- Meets requirements of the Canadian Payments Association

Our insurance experts know that the IT industry has very specific requirements and unique areas of concern—and we can deliver the specific insurance solutions tailored for your IT organization. Professional Liability Insurance for IT firms is one of PL&B's specialties—so you

can be confident your insurance coverage will meet contractual requirements and provide adequate protection of your hard earned assets.

Professional Liability Insurance Quote for Your IT Organization

If you're a **Canadian-based** IT firm or IT Professional looking for the right insurance solution, contact Pratt, Lambert & Brown Insurance today and get an IT Insurance quote that is tailored to your organization.

Technology In Insurance

Technology has adapted into the lives of today so fast that we cannot remember what it was like without it. There is pressure on businesses, companies and organizations to modify their systems in a way that is current and flexible. In the past, an insurance policy could not be quoted, bound and issued online, but this is changing. "The level of technological infrastructure consists of several generations of technologies, from early mainframe systems to the latest distributed systems based on SOA and smart devices." (Li, 2011) The level of sophistication in technology in the insurance sector has improved greatly, in order to adapt with other sectors including banking and investing. The modern technologies that all leading insurance companies want to concentrate on in order to keep and grow their customer base are social networking, telemetric and service-oriented architecture.

Social Networking

Social networking has benefited from a large proportion of the activities on the Internet nowadays. Sites such as Face book have more than 500 million users. Twitter has six million

users, and Flicker has a multitude of over five million photos. People of all ages, ethnicities, income levels and political views use these social networking sites. Insurance companies want to broaden their customer's margins and connect with them on a friendly basis and use this facility for advertising. People expect everything to be online at the touch of a button, so in a way, when one is deciding what car insurance company to pick, all information on every auto insurance company is available for the user to chose. Businesses want their customer help service to be improved by having access to all components online. This network makes it easy for each company to see who they are competing against in a particular market, for example, health insurance, Quinn versus Aviva. Insurance companies can use these social networks to engage more with their customers, providing information freely regarding their product and services and influencing potential customers. According to Garth (2011) a survey was carried out, by Celent Research Services, which identified that the most of the top ten US insurers have a social media presence. Therefore, the importance of social media is at the top of the ladder regarding distribution of information in the insurance sector. These companies understand and recognize the need for fast-changing dynamics and opportunities with the Internet and social media.

Insurance Used in Telemetric

Telemetric is a branch of information technology that deals with telecommunication systems. It involves the old version of dial-up connection, transporting of data and mobile/wireless connections over long distances. A known system is the GPS (Global Positioning Satellite) system that has already had a universal advantage and effect in the workplace. These systems are used to secure real-time data and allow connections to exist to and from any place, including Space. This system is used mostly in auto insurance as more and more

people are in possession of vehicles. The use of these built-in systems can give detailed information from each vehicle to insurance companies in order to assess the risk. By monitoring drivers, the car manufacturing industry can improve safety, reducing fuel consumption and reducing 02 emissions, and this information is valuated against insurance. Another area that uses Telemetric is usage-based insurance; it is mile-based auto insurance. The cost of the motor insurance is based on type of vehicle used against time, distance and place.

It is being promoted by environmental and transport groups. This type of insurance provides a better understanding to the driver of their driving behavior. The results of this new innovation are to present a safer driving practice. There are different ways in which technology and insurance together benefits each individual. It is an advancing area as times moves on.

New Design Techniques in Insurance

Service Oriented Architecture (SOA) is used for designing and developing software components that can be re-used over and over again on different platforms. It is used in the development and integration stage, this in turn reduces maintenance costs and shortens development time. Businesses and companies do not need to own these platforms; they are allowed to access the service through use of the Internet or network. In the insurance industry, SOAs are used to incorporate large scale systems. E-commerce takes place here. This system allows insurers to gain from the benefits of Information Technology and therefore have lower maintenance costs. The main reason for Insurance companies using SOA is that the material is already in place and they can use it multiple times but it is updated on a regular basis. "SOA's are to become more popular as more insurance companies consider their IT architectures as strategic assets" (Mill et al. 2009).

E-Commerce

E-commerce plays a role in the insurance industry also, as with the new era in technology, the world of e-commerce and business is affected. It is the managing of business on the Internet, the buying and selling of goods and services, servicing customers and cooperating with business partners. It also opens up more modern ways of reducing costs while lessening market entry barriers and assisting in the division of the traditional insurance chain. Clients in this market will benefit from greater simplicity, reduced prices and up-to-date services. It enhances the company's ability to access global markets. The insurance sector is growing but it is also still in infancy stage. As it is still very new, not a lot of companies are using it successfully. It is in the process of implementing these new ideas and stumbling upon new possibilities and testing business models and modern business systems that will adapt to their technology. With this, the rapid growth of online shopping brings new risks for internet retailers.

Security

Internet security is becoming a widely discussed topic. The improving world of digital innovation and connectivity worldwide has served to radically expand coverage to internal and external dangers over the internet. Data integrity problems, security breaches such as infringement of privacy or breach of confidence and service losses can all cause a huge impact to a company and their reputation and revenue status. The administration of security on these online systems is a crucial factor to consider, regarding insurance carriers, retail brokers, and online wholesalers in the insurance sector. Especially when there are websites and personal details

which are private, this needs to be masked. The risk of misuse of information which is confidential or subject to legislative precincts of use can result in a serious downfall for a company, if risk occurs. Regarding the security with confidential information and PIN numbers online etc, there are strict measures put in place where this is protected. For example, firewalls are set up and there is encryption technology that allows information that is sent over the internet to be concealed. Many people would be wary of applying for insurance if there is not a unified security and privacy process. There are also cyber security systems standards that have to be adhered to, in order to best protect organizations and companies against cyber security attacks and hacking into their systems. One of the most widely used security standard is the ISO 27001, which started in 1995. The International Society of Automation (ISA) developed cyber security standards for industrial automation control systems (IACS) that are broadly applicable across manufacturing industries.

Innovation in Insurance

The problem with the trends in the insurance sector is that there is always a changing and affective redesign of certain elements such as strategies, business models, products and distribution. This, in turn, has risks involved in whether it turns out successful enough to benefit everyone in this sector. A new and competitive application regarding different technologies is Business Intelligence. It is an extensive group of applications and technologies for collecting, storing, analyzing and providing access to data to help enterprise users make better business decisions. (Whatis, 2012) Companies need to strengthen their capability in this area, in order to succeed and maintain their multiple core systems. The idea of a global insurance sector will only benefit those who are willing to accomplish an implemented change. This change brings forward

the idea of a more consolidated industry and groups together the small companies in order to gain more, especially regarding globalization. A study by Ernst & Young (2011/2012), stated that "More than 60% of insurance customers throughout the Asia-Pacific region use the Internet as their primarily channel for researching insurance products". The importance of technology with economies has significantly contributed to the spread of globalization and international growth. As it is stated, not just within the Western world, but is now expanding to developing countries such as China and India. The divide between continents will provide a challenge for insurance companies as there will be cross-cultural issues, language barriers, but with the adaptation of new expertise, this will slowly change. The shift of re-shaping this sector from agent/broker and the insurance company to the customer is definitely underway.

CHAPTER 3

THE NEW BUSINESS MODEL APPLICATION OF IT IN INSURANCE

The Earlier Business Model

In the pre-computer days, agencies handled almost all customer service. Though manual, this system was efficient in that there was no duplication of processes by agencies and insurers. The insurer's main role was to provide financial backing and keep statistical information. The advent of computers in the 1960s allowed insurers to change their business model. As mainframes became entrenched, more functions flowed back to the home office. Agencies did less, and big bureaucracies in both home and branch offices became necessary to run the company's business. Built around centralized control and a large bureaucracy at the home office, the old business model customarily relies on a mainframe or other large computer system. This technology foundation offers centralized processing power and huge data storage

capacity. However, under this model, customer support for billing, claims, and policy servicing are often split between the agent and the company, and then often handled by different company departments. Customers with multiple concerns are bounced from agent to company and from department to department, introducing many opportunities to commit errors. That often results in a dissatisfied customer and high service costs that are difficult to manage. In this environment, a cadre of highly trained and expensive programmers is needed to maintain the mainframe or large computer system. Users, such as marketing staff and underwriters, must make a written request

to the Information Systems (IS) department, which then puts the request in a queue. The order may take weeks, months, or years

to fulfill. The first attempt is often sent back for fine tuning because of communication gaps between the business unit and the IS department and time lags need definition and programmed resolution.

Today, the mainframe or other large computer system is still an industry workhorse. But insurers are recognizing that it is a millstone because the environment is so inflexible. Changing any business process is time-consuming and requires expensive programming, and even then the results may not be optimal. The enormous cost and anxiety spurred by Year 2000 compliance issues provides an extreme example.

There has been a revolution in the way insurance companies do business. The new emerging business model depends heavily on information technology. What is this new business model? Primarily, it is customer-oriented. That is, all processes are designed to satisfy customer needs, rather than the company's needs. The new model is also decentralized; with more responsibility and power given to the people who are on the front lines with the customers-whether they are independent agents, brokers, captive agents, or company employees. Giving these people the automated tools they need to handle all customer requests, often in a single session, lets insurers satisfy customer needs faster and better. As a result, the new business model is flexible, responsive, and cost-efficient. Many established companies, especially those with a keen eye on the strategic advantages of leading-edge automation, have already adopted the new technology driven business model either comprehensively or in specific niches, such as a specialty line or a residual market. And forward thinking start ups are now running their entire company on the new business model and powering with a network of personal computers.

Insurance Solutions

Through its expertise in Insurance domain, Clover helps its clients achieve -

1. Speed-to-Market, Flexibility and Scalability

Insurance companies need a simple and efficient mechanism for new product introduction, rate definition, exception handling and better processes. Our engineers grow to the highest levels of training and industry experience to enable them to understand the industry needs and align their solutions accordingly. With the rapid advancement of the Insurance Industry, our engineers can provide you with the solutions to your complex problems allowing you to stay ahead of your competitors.

2. Multi-Channel Delivery - Customer Service

Making it possible to deliver the same service across the intranet, internet (Self Service) as well as through remotely connected and disconnected devices.

3. Enhance Operational Efficiency

Clover's team of industry experts in collaboration with its technical experts work towards providing solution for tomorrow's problem today. With our customized solutions you would be in a position to quickly take advantage of the opportunities that other companies could only dream of.

CHAPTER 4

FE ATURES OF INFORMATION TECHNOLOGY

Client/Server Technology

This is the technology footing that powers the new business model. It is the engine of change that is breaking the stranglehold of the mainframe model. Client/Server is a system in which most of the active computing, or processing, can be done on "clients"- inexpensive but powerful personal computer workstations. Meanwhile, the server stores a central database. Servers can be lined to clients by a local area network (LAN); a wide area network (WAN) using dedicated lines, or even ordinary dial-up lines. Ultimately, the link can be the Internet or company intranets. Today's servers are powerful, fast, and reliable. Many have multiple processors and hard disks that allow scalability and automatic backups in the form of data redundancy. The clients and the server combine to become a virtual supercomputer with enormous processing power. A client/server system thus can support a sizable insurance company's processing environment.

Computing Power at the Point of Sale or Service

To be effective, automation must be available anywhere it is needed, with consistent results. Under the new business model, the service representative or agent can takecare of all the customer's requirements in one transaction. The client/server system puts processing power where it's needed—on the company service representative's or agent's desktop, or even on a laptop the agent can take to a meeting at the client's home or place of business. (The Internet will one day become an important point of sale and service as well.) An integrated client/server system can provide the user with proper processing rules at

the desktop, resulting in consistent enterprise-wide processing. This offers many advantages, including quotes that match the actual premium.

Flexibility

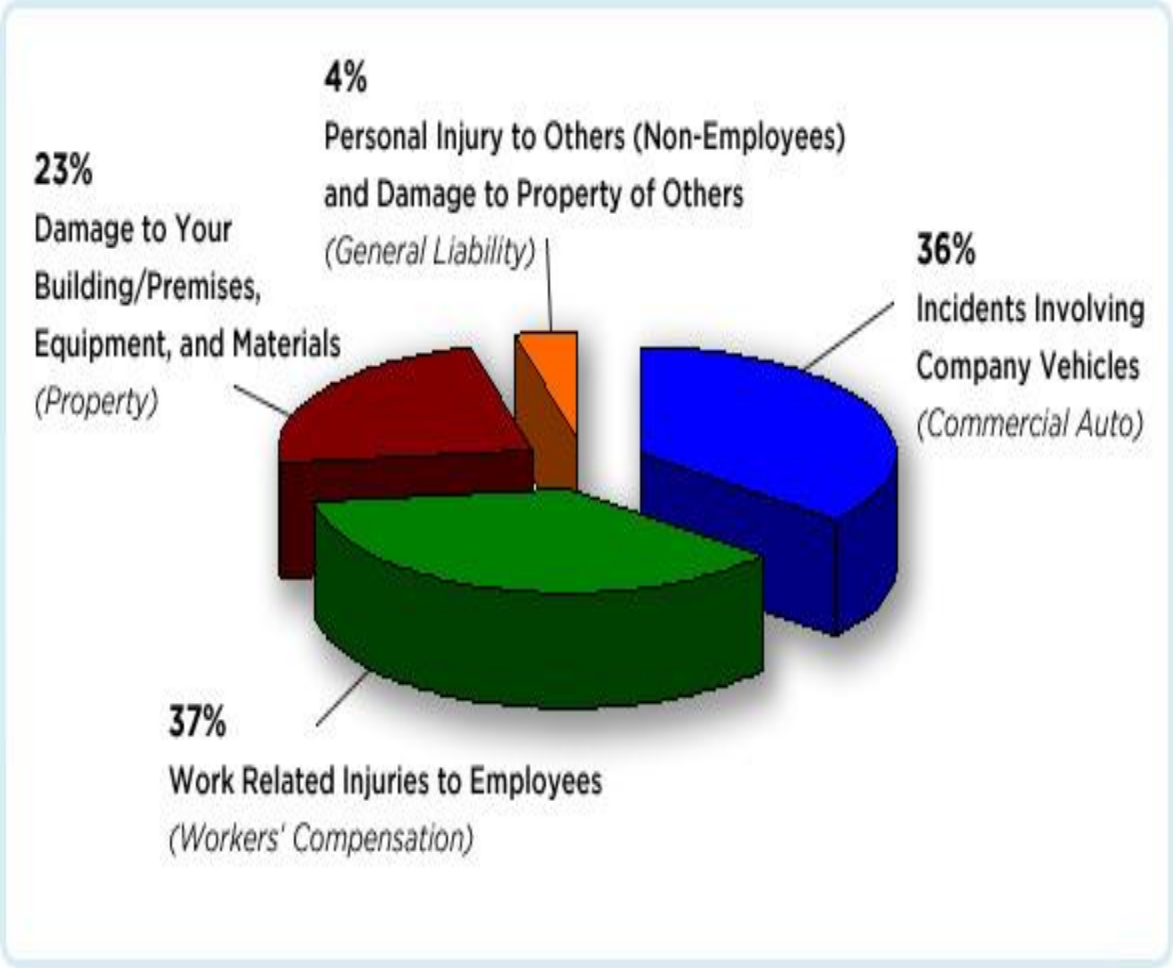
In today's competitive environment, insurers don't have the luxury of time. They must respond quickly to take advantage of market opportunities. Software that powers the new automation model is tool-based. Instead of having to rely on programming, the user/analyst simply selects a tool: to quickly change a rate, add a field, or modify an endorsement. In business terms, insurers get a much more cost-effective and timely way to address new or changing market conditions.

Scalability

New style automation can be used anywhere because it is scalable. The full version of a processing system is used for company-wide functions..The same software can be "scaled down" to fit on a laptop. This means lower costs, flexibility; more focused access to information, and improved service across the insurer's organization.

Common Technology Insurance Claims

The pie chart below breaks down technology company insurance claims by coverage type. For information on how to prevent losses, view these safety tips for industries such as information technologand medical device manufacturers.


4%
Personal Injury to Others (Non-Employees)
and Damage to Property of Others
(General Liability)
23%
Damage to Your
Building/Premises,
Equipment, and Materials
(Property)
36%
Incidents Involving
Company Vehicles
(Commercial Auto)
37%
Work Related Injuries to Employees
(Workers' Compensation)

CHAPTER 5

ADVANTAGES OF INFORMATION TECHNOLOGY

First, costs are lower. In part, this stems from lower hardware costs; for example, disk storage on a personal computer (PC) is about one-twentieth the cost of the same amount of mainframe storage. A powerful PC client now costs the same as a dumb terminal once did. More importantly, hardware savings are ultimately dwarfed by personnel savings and increased business opportunities. Since users are empowered, programmers and system analysts can be freed from maintenance and development and redirected toward providing more immediate business services to the consumers and the

company. Extendibility is another key advantage of the new environment. Creating a new product

or revising an existing one is not as monumental a task as it is with the old automation model. Insurers can easily adjust both their business tactics and strategies. They can test new market-places quickly and inexpensively. If a specific plan doesn't work out, they haven't lost months of time and lakhs of rupees in programming and management expenses. The Internet along with the company or industry specific intranets will ultimately put significant insurance information directly in the hands of the consumer at a reasonable cost. Customers will be able to inquire about their policies and coverage, make changes, and get quotes all from the convenience of their home computer.

Better access to critical information is another benefit of the new automation model. Integrated new model systems put information about losses, expenses, market penetration, and agencies at management's fingertips instantaneously. With vastly superior data, company executives can take steps to lower operating costs with more confidence and craft better short and long-term strategies. Finally, the new IT driven model also lets insurers give better, more focused service to the insured and its agents. With an integrated system, service representatives can answer almost any question posed by a policyholder or agent. They can readily go into the system and prepare a quote, find the cost of a policy change, or check the status of a claim payment.

Since processing is more efficient and more work can be done with fewer employees, progressive companies have begun to feel the positive impact of the new business and automation models. "One-and-done" may be a catchy phrase, but it does underscore an important message. It means that one employee can take care of most requests from start to finish in one transaction. "One-and-done" also reiterates a key concept expressed earlier in this chapter; by virtue of being customer-centered, the combination of a new business model and new automation provides much greater scope to increase business, lower costs and offer better service.

For decades, the insurance industry's old model of automation has been both a hindrance and a help in enabling companies to achieve business goals. With a new model of automation supporting today's revolutionary insurance distribution conditions, technology has again become the industry's servant, instead of its master. Various application soft wares are used by insurance sector for activities like new business, policy generation, customer support, claims handling etc.

Example for application software in insurance sector is ‘Cyber Life software’ offered by Computer Sciences Corporation (CSC). Cyber Life of CSC claims to offer comprehensive support for life and annuity products. Cyber Life automates processing of individual life, annuity and health products from application processing through death claim or final payout of the contract. Thus it can provide definite advantage by reducing costs, improving

productivity and accelerating the speed to market for new products. It also supports the issue and administration of life insurance and annuity products.

CHAPTER 6

CUSTOMER DATABASE

Business Intelligence Tools (Data Warehousing & Data Mining)

Leading-edge insurance companies are increasingly looking to data warehousing and business intelligence technology to unlock the vital information stored in corporate database in order to bring confidence to the management process in this chaotic and rapidly changing environment.

What is Business Intelligence?

Business Intelligence (BI) is more than decision support tools or data warehouses. BI involves all the systems processes, applications, and information structures necessary to have an effective information management environment and support the analytical process of the entire organization.

The BI arena has been an area of confusion for the business executive as well as the technology manager. Each week new tools and buzzwords are created that lead to additional confusion about BI options and their effectiveness. For example, many believe data mining and data warehousing are synonymous. Data Warehouse is defined as "a subject-oriented, integrated, time invariant, non-volatile collection of data in support of management's decision-making process". Data mining is the process of identifying patterns in data warehouse. BI encompasses a data warehouse and the decision support tools that are required to query the data warehouse. Data Mining is just one such decision support tool.

Key Steps in Developing a Business Intelligence Environment

The key to successfully leveraging the business intelligence (BI) environment is to create a robust framework to store the information. Business intelligence is the process of assembling diverse data, transforming it to a consistent state for business decision-making, and providing users with access to this information in multiple views.

The following are the generally accepted steps in building a comprehensive business intelligence system. While these steps do not attempt to cover every aspect of BI system development, they do provide a guideline for BI projects.

Selecting the BI Team

Perhaps the most important step is selection of the BI team. Developing the BI environment is a corporate function, not solely an IS function. The technical members of the team may build the system, but it is the end-users that must determine the data necessary to support business decisions and relay this information to the technical members of the team. It is critical to identify a project sponsor from the company's business community that will not only fund the project, but enthusiastically help define the company's BI needs and promote the use of the BI environment by all staff. After a project sponsor has been chosen, it is important to select a project team that includes knowledgeable individuals from both the technical and business perspective. Some of those members may include, from the technical side Data-base administrator, Data architect, Programmers/ analysts and from the business side, Business analysts, End-users, Management and Trainees.

CHAPTER 7

DEFINE BUSINESS AND TECHNICAL REQUIREMENTS

The first major step after team selection is defining the requirements of the BI system. This can be done most effectively through interviews of essential decision-makers and stakeholders. It is important to interview the executive staff first in order to determine the company's strategies and objectives. Once corporate strategies and objectives are understood, interviews of other essential decision makers and stakeholders can be completed to determine their information needs as related to management processes.

The BI team should receive input from the following end-user departments:

- Underwriting
- Finance
- Marketing/Sales
- Claims
- Actuarial
- Field Staff

Loss prevention, credit and collections, and other key areas should also be interviewed depending upon the organizational structure and corporate objectives for the system.

To ensure the success of the BI system, the end-user provides all reports used to make departmental decisions. An accurate assessment of the end-user's information needs can only be made by understanding the reports currently being used and how they were obtained. In addition to current reports, it is important to discuss information needs that haven't been met with the current system. It is vital to determine this need in the early stages of development. End-users often do not realize the decision

support options that will be available to them, and don't look past the information available in current systems and reports. The interviewer must be aware of the options that are available in the new system so they can ask probing questions to the end-user.

The technical side of the organization must also be interviewed. Scores of production data should be examined in order to identify data quality issues and values contained in fields. This information will help the team understand what user-requested data elements reside in the current system and what additional information needs to be captured (internally and externally) for the new decision support system.

An interview summary should be developed that identifies the appropriate operational data sources for all fields, along with rules regarding format, content, and use of the information once it reaches the data warehouse. This summary will assist the data architect in developing a sound data model.

Define Project Scope

Each phase of a BI Project is an important building block for the next step in the process. Therefore, it is important to establish a project plan that defines all tasks, resources, time-frames, and deliverables. An overview of the project should be developed first, followed by the partitioning of the project into manageable sections. It is critical to keep the project scope manageable. A BI system is never complete. It is a continuous process of updating and improving, based on changing technological and business conditions.

The project plan should intend that all parties be abreast of the project status and help avoid obstacles that can result from poor planning. This is not to say that the plan will not change during the project, but the project plan will give management and each team member a guideline for the direction and timing of the project.

Data Model Development

After the interview finding and project plans have been approved, the project can begin. Once the data analyst understands the end-user's business needs as it relates to data, the data model can be developed. The data model will serve as a map of the data and the relationships between the pieces of data stored in the warehouse. This model should include diagrams of the facts, dimensions, relationships, and keys that will support the information requirements.

The mapping process is one of the most vital parts in developing a data warehouse. It is also the most difficult and time-consuming step. The goal of the model is to structure the data in a format that will deliver business information at the user's request. If the model is not strategically aligned toward the user's type of business, it will almost always lead to failure of the final BI system. It is important to remember that the goal of the data model is to meet the strategic needs of the company. Many insurers who have developed a data model from scratch have experienced failure in their first several attempts. At some point the data model must be considered finished. The key is to develop the best model possible at a particular point in time. Minor adjustments can be made as the project progresses.

Database Design and Development

After the data model is developed, the DBA staff should be able to perform the following tasks:

1. Choose the database platform.
2. Create the physical database schema, including Fact tables Description tables
   Relationship tables
3. Denormalize the data.
4. Create methods of unique identification and inter-data referencing.
5. Create indexes to speed response time.

Data Extraction and Cleansing

In most organizations, source databases often lack standards that are consistent across all data-bases. Different formats, structures, attributes, and code sets, all within fields with the same meta labels, will likely exist. For example, the policy database may identify the customer by last name, while the claims database identifies by claim number, and the billing database by account number. As a result, the data must be reconciled before it arrives in the data warehouse. Data transformation can be accomplished through manual efforts or through in-house developed or vendor supplied tools. This step,
although time-consuming, will reap optimal returns for the BI environment.

Loading the Data Warehouse

After the data is scrubbed and cleansed, the data can be loaded into the target database. Transformation tools, whether developed in-house or vendor-provided, can be used to accomplish this task. This step should be closely monitored to ensure a successful and expedient completion. During this step, the team should also develop a schedule to automate the extraction and data load process.

Data Validation

This step, usually performed by business analysts, verifies processing results by balancing the data to existing reports. The calculations on existing reports should be mirrored to help the balancing effort. Verification can be done manually or a program can be developed or purchased to automate the process.
It is almost inevitable that there will be some type of error in the initial balancing of the system. Time should be allotted in the project plan to account for modifications to the mapping, transformation, and loading process, thereby allowing the implementation team time to correct errors before rollout to the entire organization.

CHAPTER 8

ROLE OF TECHNOLOGY IN INSURANCE

LIC's policyholders may have never expected so much convenience. Getting to check policy status and every other detail online in the comforts of ones home is truly a dream come true.

And that's not all. Very soon the corporation's plans of online premium payments would also go on stream which would mean making premium payments easier and hassle free. Besides the policyholder will also have the facility to pay premium for a Delhi based insurance policy in Mumbai.

And all this has been introduced only after the industry has been thrown open to the private sector. Global multinationals have brought in their professionalism, expertise and man-management skills. Blame it on the lackadaisical attitude of the government in educating the masses or the types of covers that were issued earlier, insurance was never considered as important before. The purchase motivation was mainly for tax purposes.

But now the industry has gone through a revolutionary change. Insurers are beginning to feel the heat of the competition already and every company including the monolith -the Life Insurance Corporation, has had to sit up and think hard on strategies to take the competition head on.

Information Technology:

Among all the hoopla, one factor that has brought sweeping changes in the industry in the manner it will work henceforth is information technology. It is perhaps the most significant development in the insurance sector today. Companies will need to redefine the way business was conducted so far. For, traditional methods will have to be done away with and assimilation of newer technologies will pave the way for improved efficiency and reduce costs. More transparency in operations and flexibility to change according to innovations in technology will be the key factors for success in this industry.

Easier Information accessibility:

The Internet has ushered in a new wave of information accessibility. And hence, the net medium has gained incredible importance. Almost every insurer worth his salt has made his presence on the net. Moreover, it has eased the time-consuming procedure of information sourcing. Other than providing information on policies the net will also enable making premium payment and sell insurance products online. The development of e-commerce and m-commerce will soon emerge as advanced distribution channels virtually turning companies into paperless organisations.

Electronic data:

Knowledge management, that was unheard of before, has today converted loads of files that were a massive source of raw data into electronic form. This database can help segregate information on the basis of buying habits, age group, and purchasing power of a vast majority, proving to be a mass source of available information for determining the investment culture of individuals.

Such information can help devise specific tailor made insurance products too. Today information is made available at your fingertips. Files have given way to monitors and mouses and all one needs to do is punch a few keys and voila every piece of information you need is right before you.

Comparison shopping:

Earlier the insurance agent in his inimitable style mouthed a few benefits of policies and most often the prospective customer ended up buying a policy the agent recommended. Today the customer can choose between a range of insurance products of various companies, suitable to his lifestyle and needs. He is in a position to compare between policies of various companies, analyse, work out calculations, demand more information than whatever he has been provided with and the insurance companies will only be glad to serve him. Improved service, innovative customer friendly products, affordable covers, reduction in premium, improved quality, were unimaginable a few years ago. But not anymore.

Advanced technology:

From the customers perspective, all this and more would be possible from the comforts of his home, resulting in saving of valuable time, elimination of middlemen and in the process establishing direct contact with the insurer. Apart from the internet, web chat, wireless, voice response unit and even intelligent character recognition technologies are expected to come in soon.

Newer channels of distribution:

In the current scenario the insurance distribution channels have gone through a sea change. Retailing of insurance products - a concept never heard before, has come into existence. Intermediaries such as brokers, bancassurance-selling insurance products through banks will play a major role in distribution. And an Insurance agent is no more the 'sole information disseminating authority' today unlike yesteryears, thanks to technology.

Importance of the net:

Of late there has been a steady increase in the number of internet users and the net has come up to be a dynamic marketing medium. Realising the enormous potential cyberspace marketing holds, companies now devise advertising budgets accordingly. Times are changing and insurance agents and development officers have become computer savvy.

Packaged software solutions:

Now packaged software solutions for insurance agents and development officers have become a runaway success. Premium calculations, future projections, proposals etc for clients need not be a drudgery anymore. Packaged software products are extensively used for presentations, proposal follow ups, policy services, client services, commission tracking, underwriting, task management etc.

Computerization:

Sensing the importance of technology in insurance and not to be left behind, the Life Insurance Corporation (LIC) has finally computerised its 2,048 branches. It now plans to provide connectivity between 33 major cities in the country with wide area network (WAN) in addition to the eight cities, which have already been connected. With this initiative, LIC will be able to connect around 750 branches.

Technology in rural areas:

Technology needs to penetrate the rural areas too for it to be successful. Though an effort in this regard has already begun, insurers in order to make inroads in the rural areas need to bring about awareness among the masses by educating the rural folk on the benefits and necessity of insurance. It may take some time to educate the rural folk and also bring about a change in the traditional mindset. With innovative technology every communication whatsoever the customer has with the insurance company would be through the net soon.

The advent of digital signature would be one step ahead - to happen shortly. All this has changed the very profile of the customer he was, earlier. And enabling such efficiency is what insurance companies need to get set for. In the face of accelerating changes insurance companies need to rework their strategies, do a rethink on core competencies, customer relationship management, facilitate distribution channels, settling claims, provide value additions etc. In this era only those companies, which keep abreast of the changing technology and utilise them to the maximum extent possible will survive and succeed.

Training And Rollout Of Bi System

In this final stage, end-users will be trained in the features and functionality of the data ware house and front-end BI tools. This will allow them to access the data and perform intelligent queries to support decision-making. During the rollout stage, business analysts may prepare predefined queries and reports for management and inexperienced users. Advanced users may delve into the more complex BI tools to

extract strategic information from the powerful decision support system.

Bottom-up Vs. Top-down Warehouse Development

Data warehouses may be developed from the Bottom-up or from the top-down. An overview of the pros and cons of each development method is discussed below.

Bottom-Up Approach

Data are brought together into a tactical data mart structure, designed to answer specific business questions. The long-term approach is to integrate the data marts into a data warehousing environment. A data mart is a scaled down data warehouse that is meant for a division or department rather than the enterprise as a whole.

Pros—This approach has been highly favored because of the speed of implementation. Typically a data mart can be completed in 90 to 180 days much faster than an enterprise warehouse. Project complexity is reduced since less data and fewer data sources are used. As a result, man-hours and required resources are reduced. In addition the costs are smaller and, on the surface, the risk

associated with the project is reduced. The cost of data storage, memory requirements, and staff are greatly reduced compared to a larger data warehousing initiative.

Cons—This approach is meant to deliver the data to the business units faster than with a data warehouse, and in the short-run it may be an effective solution. The user has access to data and query results in a shorter time frame. As a result, some of the pressure typically applied to IS is reduced compared to the development of a multi-year, multi core plan to build an enterprise warehouse from scratch.

Theoretically, it is possible to build tactical data marts one at a time and eventually have an enterprise information environment. However, actual results show something different. The problems may not appear when building the first data mart, or even the second, but they will eventually surface. Often, there will be a redundancy of data.

Each data mart is pulling information from a variety of source systems, each with its own interface program. The end result will be a lack of consistency among the data marts. Data marts A,B, and C may show different revenue and loss ratio results based on the source's specific calculation needs. This lack of standardization will always lead to a suboptimal decision-erasing the perceived benefit of lowered risk. Even if it were possible to build data marts that were successfully integrated, there is still a fundamental difference between an enterprise-wide data warehouse and data marts. Data marts have a different level of granularity than enterprise-wide data warehouses. Data marts are designed to be at a highly summarized level to meet the specific departmental needs. Power users will demand drill-down capability to the

most detailed level. That functionality is not available in an individual tactical data mart approach.

Top-Down Approach

This approach builds an enterprise-wide data warehouse and develops subject-area data marts that sit on top of the warehouse.

Pros—With the foundation of an information system built on an enterprise-wide data model, a higher level of integrity and consistency will be present in the data, leading to better, more informed decisions. The top-down approach provides a standard and consistent basis for decision making. This approach has also been found to be the most cost-effective in the long run. Many of the problems associated with nonstandard data definitions as well as problems balancing the same data from different sources are avoided. In the top-down approach, one source, the data warehouse, serves as the data origin for the subject area data marts. This ensures that all information is pulled from one single source of accurate data. Just as often as technology changes, business needs change too. An enterprise data warehouse can adjust right along with the business changes without having to pull and cleanse new data from operational systems and rebuild data marts.

Cons—Studies have shown that building a data warehouse from scratch can take from 18 months to 3 years to complete. Larger data warehousing initiatives do carry a higher price tag and associated risks. However, steps have been taken to reduce the time, costs, and risks. Pre-built templates and data models designed for the insurance industry have allowed insurers to pursue an enterprise wide

solution. With this new hybrid approach, insurers can customize the data model for their needs and not spend an enormous amount of time developing them from scratch.

Decision Support Tools

Once the data have been loaded into the warehouse and data marts, the next challenge is choosing the appropriate technology to retrieve the data and transform them into useful information for users. There is a multitude of decision support tools available.

Looking at the types of end-users will assist the team in determining the next tool for the company's users. A typical insurance organization has four types of end-users based upon their data Analysis style: **Senior management:** they demand BI tools, such as EIS, that notifies them of problems when they occur.

Middle management: they primarily use structured queries to analyze data and trends specific to their department.

Technical: this group depends upon the BI tools to test the accuracy of their data and will typically write ad hoc queries. They are familiar with the structure of the database.

Power Users: they perform in-depth analysis of the data through data mining techniques to look for patterns and trends. In most cases a single tool will not meet the needs of all users. As a result there are

many classes of tools designed to meet the specific needs and preferences of each user group.

These tools can be broken down into six main categories:

- Query and Reporting Tools
- OLAP (Online Analytical Processing)
- MOLAP (Multidimensional Online Analytical Processing)
- ROLAP (Relational Online Analytical Processing)
- Executive Information Systems
- Data Mining

Critical BI Success Factors

Developing a business intelligence solution is more than an IT objective, it's a business objective. The following eight factors will lead to a successful BI implementation:

1. **Involve end-users:** The end-users need to be involved in the entire BI project. Under-standing the needs of all end-users will ensure the best results possible.

2. **O btain high-level business sponsorship:** It is critical to have support (financial and non financial) from the business side of the organization during development and implementation. If their money is at stake, they will surely keep the project a priority and stress the usage of the system to their staff.

3. **Develop a clear project plan and scope:** Think globally, act locally. Model the enterprise and implement it in manageable chunks. BI development is a journey, not a destination. Implement tested components as the system is built. Establish parameters, milestones, and deliverables up front to prevent misunderstandings regarding the project.

4. **Obtain knowledgeable staff:** Employing highly knowledgeable staff, whether from inside the organization or external vendors or consultants, will ensure a well-executed implementation.

Insurance-specific data model: A strategically aligned, insurance specific data model will guarantee that BI system meets current and long-term needs.

6. **Buy BI tools that best match the user's needs:** As stated before, different users need different BI tools. Keep user requirements in mind when choosing the front-end tools.

7. **Training:** Educate the end-users on the available information and use of the tools so they can extract strategic value from the system.

8. **Promote the BI system:** It is as important to market the BI system as it is to market your products. Show the end-users the type of results that can be derived from the system. Communicate stories of better results faster than ever before.

Offer incentives for those who effectively use the system to resolve a problem or find a new business opportunity.

Business Impact of Implementing a BI Solution

A common concern when confronted with the decision to build a data warehouse, especially in a climate of tight profits and increasing costs is that of the return on the investment in a BI project. While a return cannot be guaranteed, business intelligence systems allow insurers to reap the following benefits, increasing the likelihood of experiencing a tremendous rate of return.

Increase productivity-faster access to business information

- Integration of data-one version of truth
- Standardized data across all business units
- Monitor patterns, trends, and exceptions in your data
- A complete picture of the customer
- Improve customer satisfaction
- Improve cross-selling activities
- Market segmentation activity
- Create more profitable and targeted products
- Identify potentially fraudulent claims
- Expense reduction
- Review costs of sales by distribution channel, state, and line of business, reducing

Insurance companies are successfully justifying their BI investment in terms of increased productivity and lower costs. But it's the strategic benefits, the ability to analyze pricing structures identify new markets and customer needs, and provide customized and value-added services that are delivering returns of 1000% or more on the investment to those that have implemented business intelligence and successfully

used the information. Although the returns are impressive, the companies rarely disclose this. Few in the insurance industry want to reveal their strategic weapons. One fact, however, has become clear: business intelligence is no longer a competitive advantage; it's a necessity for survival.

BI: The Internet, Intranet, Extranet

The World Wide Web is one of the most powerful distribution channels for information today. Combining the Internet and business intelligence has created a technological synergy that will maximize a BI investment. Web-enabled business intelligence tools provides access to the decision support system via browsers, such as Netscape Navigator and Microsoft's Internet Explorer. Most often used by mobile users or agents, end-users would access the Internet through an ISP (Internet Service Provider), log on to the corporate data warehouse via a Web Server, and have instant access to company information. The field staff would have the same capability as the corporate office to monitor loss ratios, policy counts,

sales, sales goals, cancellation information, etc.

Instead of deploying BI tools on all home office PCs, insurers are beginning to implement intranets, a more cost-effective approach, whereby home office end-users access the corporate data warehouse via browsers. This approach reduces the licensing costs and compatibility

problems that may be encountered with implementing BI on all PCs. Some insurers have gone one step further and implemented an extranet access to the company's internet by third party users, such as independent agents. Independent agents

can connect through third-party ISP providers, to look at their policyholders, access information in the company's agency data mart, and additionally to obtain sales leads.

The biggest concern insurers have regarding the access to company-specific information via the internet is security. Most web-enabled applications take advantage of data encryption technology, such as Secure Electronic Transmission (SET) and Secure Sockets Layer (SSL). Web-based BI tools typically have user authentication features that prompt for the user ID and password. In addition, Web administrators

can set levels of security based on the user's information needs. As the development of Web-based tools accelerates, security issues will continue to be a top priority of the vendor and the customer.

Query and Reporting Tools

These tools provide answers to predefined questions. They are very useful for simple, two-dimensional query and reporting purposes. For example, the tool gives users the capability to quickly analyze the current month's written premium compared to the same month the previous year. The tool will retrieve the data, allow limited manipulation, and format the results to user's liking. The mid management, technical and senior management user groups commonly use this tool.

The reporting tool allows users to document the status of the company at a point in time. For example, insurers typically pay insurance assessment charges based on the insurer's adjusted

gross direct written premium for a calendar year. As required, the insurer can produce a report documenting the premium by calendar year.

The following are some typical reports than insurers could retrieve from query and reporting tools:

- Agency listing
- Direct written premium by line of business, state, territory, or agent
- Loss reserves by accident year
- Listing of open claims for an adjusterIn-force policy lists by agent, state, or line of business

OLAP Tools

OLAP (Online Analytical Processing) tools were designed for users who need advanced manipulation capabilities with fast results. More powerful than query and reporting tools, OLAP allows the user to view the data across multiple business dimensions on very large data sets found in the warehouse. Mid-management and power users typically use this type of tool as it allows them to drill down, drill up, and drill across the data.

Drill Down

Drilling down allows the user to request more detail of a data set. Most OLAP applications give users the functionality to double click on a specific row to find more details.

Drill Up

The drill-up functionality is just the opposite of drill down. For example, within a time dimension, the user can roll up from months to quarters to years. This functionality allows the users to collapse the detail.

Drill Across

The drill-across functionality allows that user to view information on a horizontal level. Suppose the user was analysing a number of claims by adjuster at the end of a specified time frame. By double-clicking on claims, more detail can be found on the number of open, reopened, and closed claims during the specified time period. The information is helpful in determining the workload and efficiency of the claims adjuster.

Molap

The MOLAP (Multidimensional Online Analytical Processing) takes advantage of arrays and organizes the data in cubes of information. This format renders lighteningfast results to queries when the cube doesn't exceed 10 gigabytes. The use of this processing technique has grown significantly during the last few years and its popularity is expected to increase.

Unfortunately, cubes are proprietary in nature and limit the decision support tools that can be used to analyze the data. More importantly, as business rules change, the cubes must be rebuilt. Due to the complexity of the array structure, changes to the data often require rebuilding the cube entirely.

Rolap

ROLAP (Relational Online Analytical Processing) is an attempt to use standard relational technology and still achieve the performance levels of MOLAP. Using datastructures such as the tar schema, performance near cube level is often achievable.

The star is much easier to understand, and business changes have much less impact on the star, finally, the star is far more scalable than a cube.

CHAPTER 9

EXECUTIVE INFORMATION SYSTEMS (EIS)

EIS systems have been in use since the mid-1980s. These tools, though overshadowed in the past, have re-emerged as high-powered tools for those who do not have time to perform in-depth, daily analysis. EIS is built around the concept of software agents which are sent into the warehouse to monitor specific data for changes defined by the user and notify the user when those conditions are met. Following are examples of software agents that an executive may define through an EIS:

i) New Business by Agent by Line of Business. Provide notification when the New Business Written Premium for each Agent by Line of Business increases by 20% over the previous month.

ii) **Incurred Losses by Line of Business.** Provide notification when the Direct Incurred Losses with Expense by Line of Business increase by 25% (indicated by yellow) compared to the previous month.

As soon as the software agent is sent to the insurance warehouse, it will search for any exceptions in the monitored data. If an EIS application finds an exception, it will alert the EIS user right away. With a click of the mouse, the executive can see the exception in the data. Some EIS applications do provide an additional level of detail allowing the end-user to see data that were close to the software agent's conditions, but didn't exceed the condition and trigger notification.

EIS tools have empowered end-users that seriously had not had the time to query the insurance warehouse. Often these types of end-users only have a handful of situations they would like to monitor. EIS provides the luxury of easily monitoring key business areas while still performing their other responsibilities.

EIS applications have been designed to be used by novices or power users. Easy-touse graphical interfaces lead the end-users through the simple steps of designing asoftware agent. In less than 5 minutes end-users can define a condition and then wait for the software agent to alert them to a change. Results are often displayed visually, such as by charts or graphs. Being informed of the change allows the user to quickly isolate and correct any problems that are occurring, and to take advantage of potential

business opportunities that arise.

Data Mining

Data mining is one of the newest entries in the business intelligence arena. Insurance companies are just beginning to adopt this method of decision-making. The philosophy of data mining is to extract previously unknown patterns and trends in the data. While it may initially sound like OLAP technology, there is a significant difference in how the query is initiated. OLAP is user-initiated while data mining is initiated by the data. With OLAP technology, the end-users have a hunch on what information and relationships are affecting the possible trend and write a query that pulls information based upon their

hunch. Data mining, using a series of advanced statistical techniques, automatically examines all relationships between fields to discover significant relationships or patterns within the data, uncovering correlations between data sets.

Data mining has been used by insurers to:

- Identify fraudulent claim activity
- Forecast the success of marketing efforts
- Analyze customer life cycle
- Profile customer base
- Predict the customer buying patterns
- Increase overall productivity of operations

Data mining tools use a variety of statistical methods to automatically examine the data, such as neural or polynomial networks and symbolic classifiers. These tools actively seek out trends in the entire database, without human intervention and preconceived notion of relationships, and tell the end-users what may happen based on the information found. Data mining is a discovery process. The end users may not

know what they are looking for, but the tool will surely give them insight on what was once hidden. Data mining does require the user to understand the data and basic statistical concepts in order to use the tools effectively.

Buy Vs. Build

Insurers that have recognized the need for a business intelligence solution have a difficult decision to make. The question of buy vs. build must be closely examined. It was formerly unheard of to buy any type of IT solution. In the late 1970s, insurers were building claims and policy administration systems from scratch. It was not until the early to mid-1980s that some companies started to revolutionize the policy systems market by developing package solutions that fulfilled the administration requirements

of insurers. It is now much more likely for an insurer to purchase a policy and claims system. Insurers have steered away from building a system from scratch given the high level of risk and costs, as well as the uncertainty connected to a project of this size. The same trend is emerging in the business intelligence market. In the early 1990s, companies saw the information potential of building a decision support system, but the cost of a 3 to 4-year project to develop the system was exorbitantly high.

Building a data warehouse became more efficient in the latter half of the 1990s. Reduced hardware costs and tool solutions, such as data extraction and transformation tools, have made development more cost-effective. However, risks and uncertainty still exist. Before initiating a project from scratch, the following should be considered:

(i) **Resources:** Do the resources on staff exist to develop and complete a project of this size and complexity?

The effort involved in BI projects should not be underestimated.

(ii) **Time:** Are sponsors of the BI system willing to wait for a completed system?

Developing this type of solution from scratch typically takes at least two full years to complete. Business environments can change in that time frame. Will the outcome meet the needs of the business at the completion of the project?

(iii) **Cost:** Is the company willing to support the cost of a system from scratch, keeping

in mind that a majority of those who develop their own system typically have to scrap the project once or twice during the development phase?

While it is not unheard of to find a company that has been successful in developing its own system, it is much more common to hear of expensive and disappointing failures. One such company spent a considerable sum of money on a business intelligence environment to cross-sell

their products. However, the system was based on the wrong architecture. The IT staff developed a solution they thought would help the marketing staff, but the data model did not produce the correct results. Yet another company after

spending considerable sums of money building a BI system discovered that the system, although technically correct, did not involve the end-users in the initial requirement assessment, resulting in the use of the system by only a handful of users.

The business intelligence market is going though an evolutionary stage. Package BI solutions have been developed to meet the information needs of the company. Additionally, some vendors are developing solutions that will meet the needs of specific industries. These vendors, known as vertical solution providers, are offering pre-built, insurance-specific data models and templates that link to many policy and claim systems. They also offer insurance applications that assist in pricing, risk analysis, new business acquisition, and retention.

"Buying" these solutions can reduce the implementation time and costs dramatically.

The resources required to build the BI system internally can now be used on other IT

projects. By using a solution that has been proven at other insurance companies, the risks and uncertainty, not to mention cost, associated with "building" can be avoided or significantly reduced.

CHAPTER 10

I.T. SOLUTIONS FOR INSURANCE APPLICATIONS

An insurance company usually takes the services of software companies or software solutions provider in order to develop insurance applications. Teams consisting of subject matter experts, software programmers, database experts among others coordinate to build and establish suitable software packages catering to various functions in the insurance industry. Information Technology is pertinent and being used in the following insurance applications.

Client Administration

Database of prospective customers is very useful in reaching out to new customers. Tie-ups and data sharing with other service providers like banks can boost the chances of reaching out to particular segments of population whose financial status and requirements can be predicted to some extent.

Database of existing customers is helpful in customer relationship management and customer retention.

Maintenance of details of all business partners, brokers Complete account information of each client.

Develop and maintain customer support systems like call centers, computer telephonic interface, Interactive voice response system etc.

Product Control

- Provide full information about all classes of offerings Designing, building and implementing new products is facilitated by tools to better manage marketing research inputs.
- Store and apply rates, rules, discounts and loading
- Define workflow and controls

Underwriting

Underwriting process is automated to speed up the time taken to issue the policy, applications help in:

- Maintaining full policy details / contract details
- Copying /renewal / cancellation of policy
- Add new sections or endorsements
- Assign reinsurance cover, facultative and treaty, when ever there is such a need
- Recording and monitoring risk aggregations
- Searching and analysing policies and quotations
- Viewing policy and program performance statistics

- **Claims**

- Maintaining full claim details
- Assign and monitor professional services
- Create claim event/ catastrophe groups
- Maintain individual/ multiple reserves
- Record and authorise indemnity, recovery or fee payments
- Monitor subrogation or other recovery amounts
- Search and analyse claims gross/ net of reinsurance
- Display financial and activity history
- Accumulate by range of groupings

Reinsurance covers

- Record register of approved re- insurers and pools
- Maintain full reinsurance contract, including facultative and treaty
- Copy/renew/cancel contracts
- Offer, assign and approve reinsuring markets
- Interrogate reinsurance coverage and capacity
- Analyse reinsurance performance
- Auto-calculate, print and book treaty statements
- Auto-calculate, print and book X/L recoveries
-

Accounts

- Creating new account types
- Entering transaction bookings (premiums, claims, reinsurance)
- Automatic premium bookings
- Full multi-currency processing
- Maintaining currency codes and exchange rates
- Calculating currency exchange gain/loss and write-off
- Recording disbursements/remittances and clear bookings
- Creating journal posting
- Analysing account balance including on-line aged debt

- Analysing re-insurer balance and assigning bad debt
- Defining and controlling accounting periods
- Exchanging data via EDI, XML and other formats

Management information & control system

- Online statistics, risk aggregation, budget monitoring and revenue profiling
- Underwriting and accident year analysis
- "What-if" analysis and drill-downs
- Extensive use of graphics to enhance displays
- Apply ad hoc monitoring controls and checks

Document fulfillment

- Design and create corporate and business documents
- Ad hoc or automated document production
- Document storage and retrieval

Reporting

- Print/distribute/view standard reports
- Design/run customised reports
- Create ad hoc reports
- Produce regulatory returns

CHAPTER 11

INFORMATION TECHNOLOGY IN THE INSURANCE SECTOR

Obtaining accurate information as quickly and efficiently as possible remains an integral component to the framework of the insurance sector. Unfortunately, the dynamically changing corporate landscape, situated alongside progressively expanding legislation, results in the need for consistently improving information technology.

Information technology plays a vital role in efficient operations of insurance carriers.

Client Data

- Insurance carriers maintain accurate and updated client data records. Information technology must be both secure and comprehensive enough to store multiple names, addresses, telephone numbers, email addresses and other pertinent details.

Policy Details

- For those insurance companies providing policies across multiple lines of insurance, information technology requirements become even more complex. Details of each insurance policy, ranging from life, home, auto, boat, liability and business products, need to be accurately recorded and merged with client data.

Claims Management

- Investigating, paying and recording claims data is crucial to any insurance company's financial stability. Information technology plays a vital role in allowing carriers to record claims details and share data with police, other carriers, attorneys and beneficiaries. Advanced computer software ensures important information remains accessible and updated.

Beneficiaries

- Life insurance companies utilize database technology to record policy owners' beneficiary designations. Aside from the personal details of the insured individuals, beneficiary names, addresses, telephone numbers and death benefit portions are of monumental importance.

Payment Information

- Perhaps the most essential area requiring accurate and efficient information technology is an insurance company's client payment details. Above all else, billing and invoicing systems generate the necessary revenue to keep the company in business. Cash flow remains vital to daily operations and without superior information technology and processing systems, the carrier's financial stability is at risk.

Advantages of I.T. In Insurance Sector

Information Technology benefits every individual, along with companies and organizations around the world. I.T. has brought the world closer and it has allowed the world's economy to become a single inter-reliant system. This is because we can share information quickly and efficiently, but also address the previous problems of language and geographic barriers. Therefore insurance companies can spread their services worldwide. I.T. has made it possible for business to operate 24 x 7 all around the world. This means that a business can be open anytime anywhere, making purchases from different countries easier and more convenient. The majority of the people are connected to the World Wide Web. Therefore systems are becoming more interactive with their users. Insurance being available online whenever, wherever, gives the sense of security to people and businesses; it takes the risk of large uncertain losses in exchange for a small premium. I.T. has helped to make communication cheaper, quicker, and more efficient. So that businesses can operate at a faster pace, and deliver information resourcefully. I.T. has also brought about cost effectiveness by helping to automate business processes thus reforming the business to make them cost effective. This results in an increase in productivity which eventually

increases profits. Since computer-aided systems are widely used, it is advantageous to include information technology into your organization/company. Information technology creates electronic storage systems to protect your company's valuable records. The vast amount of records kept by insurance companies allows the use of these systems to function properly. I.T. systems give you remote access to your company's electronic network, so that you can work from home or on the road. As businesses are becoming more competitive, there is the need to use I.T. to remain ahead. Good I.T. use can get you ahead of competitors.

Disadvantages of I.T. in Insurance Sector

Information Technology has many problems regarding insurance systems also. Every new company has to deliberate the start-up costs when implementing a new information technology system. Some hardware and software products that are used in insurance systems require user licenses and these can be expensive, for the allowance of all parties in the workplace to use. The up-keep of certain I.T. systems can be costly. Also when systems break down or fail, there is the added cost of technicians and repairs, which are necessary. The drawback from information technology systems is that they eliminate jobs for the ordinary people, as the systems can automatically process the information. So as technology progresses, less human employees are needed. Paperwork and storage of records is immediately processed and financial transactions are automatically calculated. The main concern especially with insurance companies is the security programs and systems put in place. Security breaches can happen, predominantly when information is transferred over the Internet. People such as hackers may access private and confidential information. This would cause serious problems for an insurance company if this data is altered, or destroyed for the wrong reasons.

CHAPTER 12

CONCLUSION

In conclusion, there is relevant and consistent information to illustrate that the insurance industry is certainly changing and progressing. We are still only in the infancy stage of this new technology boost, with even more benefits to come. The opportunities in innovation technology in the insurance industry are endless. It is clear that this industry is very important and significant regarding individual needs. The industry is adapting with the new trends in technology in Ireland and throughout the world. The introduction of smart phones and apps in the last decade has contributed to the way in which insurance companies operate and how their advertising and marketing is conducted, especially online. The use of technologies such as Service Oriented Architecture (SOA) and Tele matics has aided insurance to make systems more complex but accessible. These in turn help companies reduce administration and maintenance costs and, in contrast, increase profits. It is stressed by the Geneva Association that there is on-going extensive research taking place in this sector. This paper shows that insurance is viable in many different situations and when there is an improvement in technology. This in turn assists the activities surrounding insurance for the best.

FINDINGS