

# An Analysis of E-Insurance Practices in Pakistan: Current Status and Future Strategies: The Case of a State Owned Pakistani Company

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## Abstract

The use of Information Technology (IT) by business firms has increased tremendously, so is case with insurance industry. In an IT based economy the need for E-Insurance has become imperative to meet the current challenges of the 21<sup>st</sup> century. The Insurance companies in the world are using IT to increase their productivity/income and customer base by using latest IT systems. The Pakistan's insurance companies are not lacking behind and using latest IT systems for performance improvements. E-Insurance in Pakistan is growing rapidly. There are changes taking place in the IT landscape of Pakistan's insurance industry. The purpose of this paper is to know about the IT usage in the insurance industry and where Pakistan stands in terms of IT adoption at its major institutes like the State Life Insurance Corporation of Pakistan.

The results of this study showed that IT is being utilized aggressively in insurance sector. The State Life Insurance Corporation of Pakistan is also increasingly utilizing Information Technology (IT) since long but its efforts are not properly aligned with its current need and at par with the world. The company is working with old/outdated IT systems products and needs to revolutionize its IT usage to have Web based internet integrated systems. There is a dire need that the company must implement an ERP system to become more competitive.

**Keywords:** Insurance, IT, Insurance systems, ERP systems

## 1. Introduction

Information Technology (IT) is the backbone to the progress of any company now. Its' no secrete now that IT is playing major role in the uplift of all economies of the world the performance of their business firms has been increased tremendously. So is the case with all companies and insurance industry in particular in Pakistan. The Insurance companies in the world are using IT to increase their productivity/income and customer base by using latest IT systems. The use of IT to boost E-Insurance in Pakistan is also growing rapidly. This purpose aims to explore about the IT usage in the insurance industry and Pakistan's position in terms of IT adoption at its major institutes like the State Life Insurance Corporation of Pakistan. The paper is structured as follows: Following the introduction section 2.0 provides a literature review about the insurance, its history and progress in the world and in Pakistan with particular emphasis to the life insurance industry, IT usage in insurance industry and its importance and growth in it over time. Section 3 provides the methodology and a comprehensive review about the state of IT usage in the case study company i. State Life Insurance of Pakistan. Section 3 discusses the results in detail and section 4 presents the overall conclusions and our recommendations.

## 2. Literature Review

Insurance can be defined from view points of the several discipline, including law, economics, history, actuarial science, risk theory, and sociology. The American Risk And Insurance Association has defined insurance as “ It is the pooling of fortuitous losses by transfer for such risks to insurers, who agree to indemnify insured for such losses, to provide other pecuniary benefits on their occurrence, or to render services connected with the risk. “Insurance, in law and economics, is a form of risk management primarily used to hedge against the risk of a contingent loss. It is the equitable transfer of the risk of a loss, from one entity to another, in exchange for a premium”(Rejda ,2008). Black & Skipper (2009) make difference of insurance from individual and society point of view, They say that according to individual view point “Insurance is an economic device whereby the individual substitutes a small certain cost (the premium) for a large uncertain financial loss (the contingency insured against) that would ever exist if it were not for insurance” and according to social view point, “insurance is an economic device for reducing and eliminating risk through the process of combining a sufficient number of homogeneous exposures into a group to make the losses predictable for the group as a whole”. So in a broad economic sense, insurance transfers risk from individuals to a larger group, this is better able to pay for losses.

History of insurance is very old, in some sense we can say that insurance appears simultaneously with the appearance of human society. The Greeks and Romans introduced the origins of health and life insurance c. 600 AD when they organized guilds called "benevolent societies" which cared for the families and paid funeral expenses of members upon death. Insurance as we know it today can be traced to the Great Fire of London, which in 1666 devoured 13,200 houses. In the aftermath of this disaster, Nicholas Barbon opened an office to insure buildings. In 1680, he established England's first fire insurance company, "The Fire Office," to insure brick and frame homes. The first insurance company in the United States underwrote fire insurance and was formed in Charles Town (modern-day Charleston), South Carolina, in 1732 (Mehr and Camack, 1976).

Benjamin Franklin helped to popularize and make standard the practice of insurance, particularly against fire in the form of perpetual insurance. Achaemenian monarchs were the first to insure their people and made it official by registering the insuring process in governmental notary offices. A thousand years later, the inhabitants of Rhodes invented the concept of the 'general average'. Merchants whose goods were being shipped together would pay a proportionally divided premium which would be used to reimburse any merchant whose goods were jettisoned during storm or sinkage (John, 1961).

Insurer, in economics, is the company that sells the insurance. Insurance rate is a factor used to determine the amount, called the premium, to be charged for a certain amount of insurance coverage. Risk management, the practice of appraising and controlling risk, has evolved as a discrete field of study and practice (Khan, 2007; Stultz 2003). Insurance companies are generally classified as either mutual or stock companies. This is more of a traditional distinction as true mutual companies are becoming rare. Mutual companies are owned by the policyholders, while stockholders (who may or may not own policies) own stock insurance companies. Other possible forms for an insurance company include reciprocals, in which policyholders ‘reciprocate’ in sharing risks. Reinsurance companies are insurance companies that sell policies to other insurance companies, allowing them to reduce their risks and protect themselves from very large losses. The reinsurance market is dominated by a few very large companies, with huge reserves. A reinsure may also be a direct writer of insurance risks as well. Any risk that can be quantified can potentially be insured. Specific kinds of risk that may give rise to claims are known as "perils". An insurance policy will set out in details which perils are covered by the policy and which are not(Rejda, 2008; Stultz, 2007).

Vaughon & Vaughon (2008) give classification of insurance companies as: *Life* insurance companies, which sell life insurance, annuities and pensions products. *Non-life* or *general* insurance companies, which sell other types of insurance. In most countries, life and non-life insurers are subject to different regulatory regimes and different tax and accounting rules. The main reason for the distinction between the two types of company is that life, annuity, and pension business is very long-term in nature — coverage for life assurance or a pension can cover risks over many decades. By contrast, non-life insurance usually covers a shorter period, such as one year. The general insurance can be offered in following forms as i)Automobile insurance ii) Health insurance iii) Marine insurance and marine cargo insurance iv) Pet insurance insures v) Property insurance vi) Travel insurance vii) Workers' compensation insurance viii) Stock Insurance etc. The insurance market in Pakistan is broadly categorized in two main classes, *life insurance* and *non-life insurance*. Moreover, the country has one reinsurance company that carries out reinsurance activities and further spreads the risks. The insurance market is highly concentrated in urban areas and many insurance companies are subsidiaries of large industrial groups that were created mainly to reduce the outflow of funds in the form of premiums, to manage the risks of their industries and to generate profits out of it (Ahmad, 2007).

The country had 5 domestic and 77 foreign insurance companies at the time of independence, which were regulated under the Insurance Act of 1938. Department of Insurance within the domain of Ministry of Commerce, to supervise the affairs of insurance industry and to safeguard the interests of the insured was established in 1948 by the government. Various amendments have been made in the Act in 1958 and afterward in view the requirements of domestic market and to have effective control over the insurance premium rates. In year 2000 SECP was made responsible for supervising insurance business in Pakistan and the role of Department of Insurance alongwith Controller of Insurance was abolished. The outdated Insurance Act 1938 was replaced with some new regulations (Ahmad, 2006; Bashir, 2007).

Talah (2007) argues that since the business of insurance companies is to spread the risk, therefore the Pakistan Reinsurance Corporation (presently called as Pakistan Reinsurance Company Limited) was established in 1953, with the aims to establish a domestic reinsurance company, to boost the profitability of domestic insurance companies and to reduce the outflow of foreign exchange that was earlier used as reinsurance premiums made to reinsurance companies mainly in the U.K. In 1955, to promote insurance culture in Pakistan and to assist small insurance companies in meeting financial requirements the National Coinsurance Scheme (NCS) was initiated. It also aimed to have checks and balances on government expenditure on insurance and to assist in settlement of claims in which the government was the beneficiary. The formation of NCS yielded favorable results, Moreover, economic growth in 1960s further promoted the insurance business in the country and the number of Pakistani insurance companies increased to 26 and reached to 47 by 1971. However, the number of foreign companies decreased from 77 in 1947 to 25 in 1972 due to political uncertainty and separation of East Pakistan (Talha, 2007; Khan, 2007).

In 1972 the life insurance business (that grew very rapidly from a total sum assured of only Rs. 130 million in 1949 to Rs. 51.7 billion in 1972) faced a major reform and it was nationalized. Life Insurance Management Board managed the affairs of these newly nationalized life insurance companies. By consolidating the business of 41 nationalized insurance companies in 1973, the government created State Life Insurance Corporation with a purpose of encouraging life insurance business and to safeguard the interests of policyholders. National Insurance Corporation (presently National Insurance Company Limited) was established in 1976. Since then, it has been the sole insurer to the government and semi-government bodies. In 1980s no significant development took place in the insurance industry until the financial sector reforms were initiated by the government in early 1990s. These reforms have also encouraged investments in insurance business. The number of local insurance companies increased to 62 in 1995 while foreign participation was reduced to 9 companies. The new Insurance ordinance was promulgated in August 19, 2000 by the SECP that increased the minimum paid-up capital of non-life insurance companies to Rs. 80 million and for life insurance companies to Rs. 150 million. Currently, there are about 54 insurance companies out of which 49 companies offer non-life insurance and 5 offer life insurance services. The non-life insurance industry also includes six companies that also provide health insurance coverage (Pakistan Financial Sector Assessment 2003 by State Bank of Pakistan; Afsar, 2006; Zamir, 2006; Kazmi, 2007).

Information Technology (IT), as defined by William and Sawyar (2005) "is a general term that describes any technology that helps to produce, manipulate process, store, communicate, and/or disseminate information". It includes hardware, software, databases, networks, and other related components which are used to build information systems (Shelly & Cashman, 2004). It is a powerful force in today's global society. IT implementing in Insurance Industry can benefit it in number of ways as it helps in transforming an insurance business by managing it as an integrated whole and enabling Web technologies that helps insurers to offer new products and services faster, operate more efficiently and respond to challenges and fluctuating market conditions, to achieving end-to-end integration in all processes. It means insurers can attain higher levels of business activity across processes and applications and closer and to have more effective linkages among suppliers, distributors, customers and employees (Life Office Management Association and Arthur Report 1986; Cymbala, 1980).

Many researchers have investigated the other potential benefits of IT in insurance industry as well. Harris & Katz(1991) for example, found that organizational performance in the office operation of systems technology leaders in the life insurance industry was linked to the level of information technology investment intensity. Firms whose organizational processes were more integrated and coordinated through information technology, outperformed other firms even when firm size was controlled. Firms with the most improvement in their organizational performance exhibited greater premium income growth, lower operating costs growth, lower non-information technology costs growth, higher growth in the IT expense ratio and larger reduction in the ratio of IT costs to premium income. Galal & Francalanci(1998) observed that in life insurance industry the potential gains associated with process integration may be contingent on both firm size and whether the firm is fast

growing or declining with transformed, modernized systems resulting in full consistency between channels, responding to changing client expectations becomes less cumbersome and, most importantly the client gets a single experience. Productivity is improved for producers, back office administrative staff, and 10 to 20 and even higher percentages of expense and personnel reductions are possible (Loveman, 1988; Manning, 1985).

Historically, insurance has been a leading industry in the utilization of IT. Computer entered in insurance business in early 40s and insurance companies were among the largest and most sophisticated business users of punch card machine in the late 1940s and 1950s (John, 1961). The Prudential's Edmund Berkeley was a leader in this interest, and influenced the development of early commercial computer systems in 1947. With the development of electronic computers in the early 1950's, insurance companies were among the first to recognize the potential that this equipment had to offer in helping to improve and streamline their operations. The large number of clerical activities, mostly highly routine were tailor-made for computerization (Ephraim, 1974; Yates, 1999). The Univac, the first computer to be available to commercial firms, was designed by J. Presper Eckert and John W. Mauchly. In the spring of 1954 Metropolitan Life was the first insurance company to take delivery of Univac and many other companies followed it afterward (Nally, 1969).

Insurance industry's early efforts at automation led to task fragmentation and automation of existing clerical work, but IT is now used to a much greater extent to support process integration and coordination. Legacy systems continued to be a concern for many insurance companies. Today, due to the high level of organizational and technical complexity associated with the development and implementation of IS, the process may involve difficult, possibly unique, technical and managerial choices and challenges (Manning, 1985). Consequently, many organizations now are purchasing the latest ERP (Enterprise Resource Planning-An integrated IT software system comprised of several modules that share a central database, designed to automate business process across the enterprise (Thomas and Michael, 2001)) systems instead of developing and using their in-house systems. As ERP systems provide more complete integrated online solutions to the companies than any other system (William, 1999).

Currently, IT is at forefront of insurance companies. The majority of the insurance companies are using IT in one or the other form. Given the general trend toward use of ERP system, its use is increased. Other major initiatives that the insurance industry is currently examining include the use of data warehousing to find new marketing opportunities, the reduction of paper by the use of workflow programs and document imaging, the introduction and enhancement of technology-based call centers to handle customer enquiries and the use of Internet technology to improve corporate communications. Using the latest IT system, managers of the insurance companies are able to process work quickly and response to their customers has been faster and prompt (Leslie & Richard, 2006; Jen-Her & Yu-Min, 2006; Khan, 2006).

In this volatile business environment, the insurance industry is struggling to find ways to create sustainable value. There are no doubts, still certain limitations on use of IT in all insurance services. Many insurance products cannot be delivered across the Web because they require complex underwriting processes that cannot be supported in real-time or because regulatory restrictions prohibit it. Moreover, finding and hiring the experienced IT professionals necessary to convert, leverage and support existing legacy systems, data, platforms and development tools into Web-enabled solutions is also expensive and time-consuming (Bill, 2004; Zamir, 2006).

### 3. Methodology

A case study method is chosen for the purpose of this research. A case study has five main components: Research questions, theoretical propositions, units of analysis, the logic linking data to these theoretical propositions, and the criteria for evaluating these propositions. By including these five components, case study is seen as "proper". As the insurance industry offers an excellent case study of the problems and promises of IT because it has always been both information intensive and labor intensive industry. Therefore, a state owned insurance company i.e State Life Insurance Corporation of Pakistan (SLIC) was taken as case for the purpose of this research. This research is conducted in SLIC Principal office, Regional offices, and Zonal offices at Karachi, Multan, Islamabad and Lahore. The researchers have tried to find out the present state of IT status in the company, reasons for adoption of IT, identifying critical success factors and problems in IT implementation / adoption. A questionnaire containing open ended questions provided a primary source of information for the study. It contained 27 questions concerning the topic. Respondents were the officers/executives working in IT and other departments of the company.

The company was created as a result of the nationalization during March 1972. Initially life insurance business of 32 Insurance Companies was merged and placed under three Beema Units named "A", "B", and "C" Beema Units. However, later these Beema Units were merged and effective November 1, 1972 the management of the

Life Insurance Business was consolidated and entrusted to the State Life Insurance Corporation Of Pakistan. As per annual report of SLIC of 2008, the company has four Regional Office, twenty six Zones, a few Sub Zones, 111 Sectors Offices and a network of 461 Area Offices across the country for individual Life Insurance; Four Zonal Offices and 6 Sectors Offices with 20 Sector Heads for Group & Pension business. The company has paid up capital of Rs. 900 million, premium income 18.717 billions, investment income 17.505 billions, total statutory funds of SLIC stands at Rs. 156.7373 billions. It has total inforced polices as 2349 millions individual life and 4.062 millions life covered under group insurance.

The computerization in the company was started in 1979 when SLIC acquired IBM 370 computer, later in 1987 it acquired ME 29, in 1991 VAX 6000 was purchased, in 1994 it acquired IBM RISC 6000 for zones, and in 1995 purchase of Digital XL-550 was made for different zones. In 2001 SLIC purchased Compaq Proliant 8500 main server for principal office with SCO 5.0.6 operating system and Oracle 7.1.3 and replaced VAX 6000. To replace outdated machines at 11 zones the company acquired IBM X 235 servers for all 26 zones. Since then no updating is made as far as hardware/software is concerned. Over the time, the company is able to computerize its Accounts/General ledger, Payroll, Policy Holder Services (Billing & Claims), Investment, Agency Administration, Actuarial and Personal systems (Figure 1). The most of the systems are developed in-house by using MF Cobol & Chartered based Oracle Version, Oracle GUI 7.1.3 running under SCO Unix 5.0.6 operating system. These systems have no/very low integration and have incomplete system documentation.

The Computer Division at SLIC is responsible to provides IT services and support to Head Office and Zonal Offices of SLIC. It is responsible for resolving all issues associated with IT systems installed in the company. It also provides the training and detailed instructions for use of its in-house developed applications. The Computer Division is headed by a Deputy General Manager. It has total of 60 IT staff strength at principal office and different zones.

#### 4. Results and Discussions

In Pakistan, several life insurance companies are presently using information systems developed by different computer firms. A number of companies have developed their own systems, and most of the other are in various stages of developing or converging to a complete system. This study explores that how these technologies are perceived as contributing to the objective of insurance. According to the overview of the actual state of the IT usage in SLIC, a very serious problem seen in SLIC is the inability of its management to oversee the future IT need. Ultra conservative management tends to be slower to respond to changes in technology and is less likely to move aggressively to take advantage of the economic potential of IT. While most of the times top executives (Chairman & Executive Directors) are posted from government side for some tenure and they have no IT background. Therefore, this ad-hoc non technical management pay less attention to IT boost in SLIC.

IT systems installed at the company are examined for 32 years from 1976 to 2008. The analysis shows though SLIC have been using IT systems since long but not at par with the industry/world. Expense on IT (Table 1) are comparably low as compared to income, the smaller insurance companies had a high ratio of IT expenses to total operating expenses and total income then SLIC. While SLIC's total income has been almost doubled just in four years from Rs. 24,624.2 Millions to Rs. 41,829.9 Millions from 2004 to 2008 but its IT expenses have been reduced from Rs. 8345 lakhs to 6250 lakhs. These Insufficient investments in IT may adversely affect business growth, market share, goodwill, reputation and customer satisfaction. As shown in Table 1 the small companies have more expense %age as compare to SLIC. Over the past 10 years, the insurance industry has experienced significant restructuring driven by an intensified competition but no major efforts seem in SLIC with regards to improvement of IT. There is immediate need for infrastructure reforms in IT setup.

It has been observed that SLIC management is very conservative and slow in adopting new changes in IT. So IT systems are not updated since long and these legacy systems are running on multiple platforms, using obsolete software technology i.e SCO Unix, MF Cobol etc. There are arduous and time consuming MIS reporting processes and duplication and repetition of tasks. The staff working does not have updated knowledge about new IT products/updates and there is no proper plan for updating personnel. The current systems are using obsolete technology. The existing insurance applications are not in line with industry level standards resulting in poor service to the customers. Low level systems integration resulting in repetition of task and difficulty in transporting data within zones. No provision of generation of MIS (A MIS is a system of structured information which is planned for and made available to mangers; the system ties planning and control by managers to operational systems of implementation) and DSS (A DSS is interactive, computer-based information systems which use decisions models in a management data base to provide information tailed to support specific decision faced by individual manager)(Manning, 1985) reports due to application software limitation. No connectivity is

there between Zones and Principal office. There is data redundancy due to limitations in application software design.

These legacy disintegrated systems are not fulfilling even the existing business requirements of the company causing decrease in operational efficiency and leading to risk of defects and lack of standardization. It also inhibits the management to take timely decisions and inability to provide its stakeholder/policy holders up to date service. The managers at different Zones/Regions are less familiar with the use of internet/intranet for internal communication and most of the corresponding is still done mainly by traditional fax/manual mail systems.

IT itself is not a solution to all problems but it is a tool and opportunity. To make it useful, it must be incorporated into the formal planning process and integrated with corporate planning, have top management support, incorporate user involvement, be consistently monitored for potential beneficial use, but all it is missing in SLIC. Plans are made in isolation with the IT departmental head and users. The IT department is not involved in any strategic planning process. The top management usually makes decisions by itself and many times the requests of the users departments and IT department are turned down on various grounds without discussing the need. Monitoring capacity, performance and compatibility with new advancements to update and continuously improve critical success factors of infrastructure is not carried out in SLIC.

Whenever a new system is introduced in an industry, various hurdles have to be crossed. In order to implement information technology SLIC faced such hurdles as shown in Table 2. Some of the common are, IT infrastructure, lack of proper planning, management unaware about IT, non-cooperation of employees, management shirk towards investing for technology adoption etc. But the main issues, as discussed earlier faced by SLIC are lack of proper planning and management unawareness about IT.

## 5. Conclusions & Recommendations

Information Technology is being used in almost all the business organizations in Pakistan. Most modern and state-of-the art ERP IT systems are being used in the companies. The insurance industry is also not lacking behind in implementation of these modern IT systems. The state of the implementation of IT in the state owned company i.e SLIC is very pathetic. Though State life is a very old IT user but due to conservative approach of its management towards use of IT, its diffusion has been very slow. At present, the company is very slow in updating its IT systems. The company has full-fledged IT division with large no of employees but with obsolete systems which need to be replaced immediately with the newer and latest one. Though the company has developed certain systems to process claims, payroll, underwriting, commissions, accounts etc. and has also developed its web-site as well but it is lacking in providing on-line/real time insurance facilities to its users. The web-site merely provides the basic information about the company and some products and nothing more. The integration among all the systems and integration between zones and principal office is also missing, which is causing the major bottleneck in real IT use in SLIC.

Competition in the insurance industry is fierce. Globalization and the convergence of services are making it more difficult for insurance companies to survive. Insurance companies are facing a number of challenges today. The insurance industry is facing new challenges of merger & acquisition, new regulation & compliance, threats of new entrance, powers of supplier/customers, availability of substitutes, globalization, social changes, new market players, changes in the types of transactions, terrorism, and economic instability are just a few of the issues that insurers are tackling. Today's business climate is fraught with uncertainty and in every area of the organization IT is being asked to do more effectively to cope with these challenges. It has forced the companies to continuously update their old legacy system on priority basis. As in the modern technology era, it is perceived that only those insurance companies will survive in the future, those who are sound on technological grounds. So it is the time for SLIC management to review its IT policy/systems. There is a dire need that the company should immediately implement any of the best suited ERP system in line with other companies of the world to have integrated and online/real-time connectivity among all its offices and stake holders. The top management must give concrete full attention to IT division with new initiative and vision to make company online in true sense. An appropriate budget must be allocated for replacement of current Hardware, Software and Application Programs. The staff may also be trained with new skills and knowledge.

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Table 1. Hardware Cost (computer, printer, scanners etc) and Software Cost (operating system, programs)

Year	Universal Ins co ltd	IGI Ins ltd	Adam ji Inc co	Askari gen. ICO	EFU general	EFU life Ins	State Life Ins	New Jubilee
1997			50575k		969m		8745k	5315k
1998			56080k	3444147	836m		8189k	2761k
1999			57127k	3920533	752m		8698k	906k
2000			74152k	6078643	617m		10301k	2721k
2001			64671k	8648592	569m		9609k	1116k
2002		2305k	34398k	9625032	849m	1474k	12208k	1140k
2003	400k	2098k	29417k	4861174	594m	1316k	8345k	4594k
2004	150k	1107k	29053k	5086447	341m	1172k	6788k	3667k
2005	150k	1352k	32207k	7020611	12411m	3608k	5755k	7020k
2006	700k	2927k	40715k	6642454	18414m	3896k	6250k	3594k

Source: Annual Reports Of Respective Companies

Table 2. Difficulties faced by SLIC in Implementing IT

Difficulty	Intensity
Pakistan’s inadequate IT infrastructure	Low
Lack of adequate employees	Low
Lack of proper planning	High
Management unaware about IT	High
Non-cooperation of employees	Low
Management shirk to investing	High

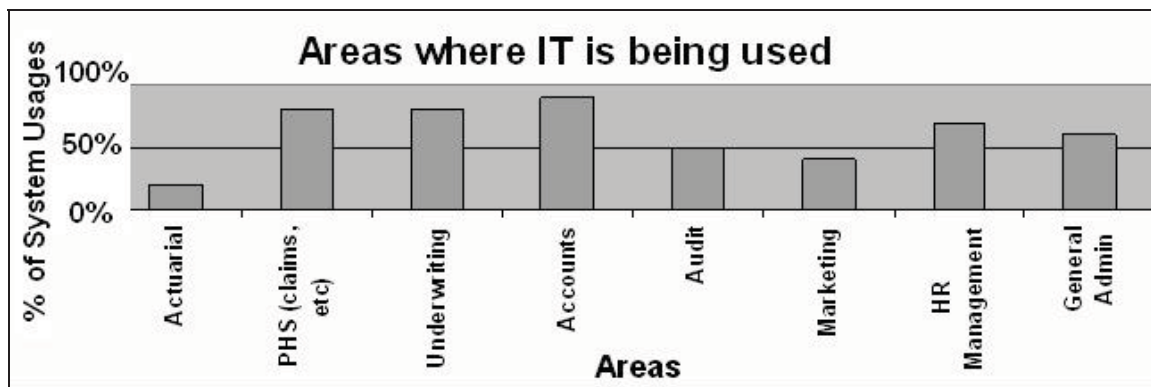


Figure 1. Areas of IT usage in SLIC