Actuarial Process Outsourcing

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Abstract

This paper looks at the scope for outsourcing actuarial work to India, and how an actuarial offshore delivery center can be set up and managed. We compare the different approaches adopted in setting up the delivery center and how they compare on various aspects. Though we focus on the aspects of outsourcing actuarial services, much of the principles discussed here would equally apply to most of the other financial services outsourcing.

Keywords

Outsourcing; BPO; KPO; APO; ITES; BTO; BOT; Captive; Pilot; Operational risks; Delivery centre; FTE; centralization; standardization; functionalization; RFP

Introduction

The paper is divided into 4 sections.

In section 1, we give an overview of the outsourcing industry. We discuss the volumes, trends and how the industry has evolved over time with particular reference to the Indian outsourcing industry.

In section 2, we discuss the different approaches that can be adopted in setting up an actuarial delivery center in an offshore location and the pros and cons of each of them.

In section 3, we consider the characteristics of typical actuarial processes, transition methodology and key challenges in the setup and management of an actuarial service delivery centre and why India is likely to be a preferred destination for APO.

In section 4, we summarize the key elements of the actuarial process outsourcing.

1. Outsourcing industry – an overview

'In 50s and '60s, “size is good” was the predominant business model. Creation of a huge corporation with sprawling campuses, having own in-house print shop, separate warehouse just to hold office supplies, employing more mid-level bureaucrats than an agency of the government were seen as a mark of success. But today, any company adhering to the above business model would not last long. The rules have changed, and outsourcing has gained weight in order to remain slim and efficient.

The idea of outsourcing has its roots in the 'competitive advantage' theory. Over the years, the meaning of the term 'outsourcing' has undergone a sea-change. What started off as the shifting of manufacturing to countries providing cheap labor during the Industrial Revolution, has taken on a new connotation in today's scenario. In a world where IT has become the backbone of businesses worldwide, 'outsourcing' is the process through which one company hands over part of its work to another company, making it responsible for the design and implementation of the business process under strict guidelines regarding requirements and specifications from the outsourcing company. This process is beneficial to both the outsourcing company and the, as it enables the outsourcer to reduce costs and increase quality in non core areas of business and utilize his expertise and competencies to the maximum.

BPO-Business process outsourcing (process of subcontracting a process to a third party company or even may be hiring another company to handle business activities for you) has become the cornerstone of the "lean and mean" way of doing business and staying competitive. Apart from customer interactive services & simple transactional type activities, BPO encompasses a wide range of activities including ITES (Information technology-enabled services) and KPO (Knowledge Process outsourcing), BTO (Business transformation outsourcing).

Since most business processes include some form of automation, IT "enables" these services to be performed. But, It is distinct from information technology (IT) outsourcing, which focuses on hiring a third-party company or to do IT related activities, such as application management and application development, data center operations, or testing and quality assurance.

KPO, an offshoot of BPO includes activities that require greater skill, knowledge, education and expertise to handle. For example, whereas an insurance company might outsource data entry of its claims forms as part of a BPO initiative, it may also choose to use a KPO to evaluate new insurance applications based on a set of criteria or business rules or even may be valuation of their current liabilities; this work would require the efforts of a more knowledgeable set of workers than the data entry would. The current definition of KPO encompasses R&D, product development and legal e-discovery, as well as a number of other business functions.

Actuarial processes fall in the extreme complex end of the KPO. Due to a lot of business potential, different skill set requirements and other characteristics; it may be worth treating them as a separate category, the APO (Actuarial Process Outsourcing).

BTO -- business transformation outsourcing is another term gaining momentum. This refers to the idea of having s contribute to the effort of transforming a business into a leaner, more dynamic, agile and flexible operation.

The global outsourcing market continues to grow at a steady pace, with a 2007 worldwide market growth rate of 10.2% for both IT outsourcing (ITO) and BPO. In 2007, the BPO market continued double-digit growth (11.6%). The global outsourcing market size is estimated to be around US$ 173 billion in 2007.

Revenue \ Year	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**CAGR**
Offshore BPO Revenue	1,322	1,825	3,017	6,439	12,563	24,230	78.91
Indian BPO Revenue	912	1,205	1,961	3,928	7,412	13,811	69.35
Total BPO Market	110,167	121,687	131,171	143,090	157,033	173,070	9.45
CAGR in % 2002-07		Figures in $ million		**Source:** Gartner Dataquest			

Publicly announced large BPO contract signings continued to be limited, but there were more announcements of **small and regional deals**. In 2008, Gartner forecasts that more multinational and large corporations will sign BPO deals at the business unit, geographic or enterprise-support-service levels to create BPO relationships that test the concept before adopting solutions on an enterprise or multi geography level.

Gartner's outsourcing user-wants-and-needs research shows that companies are simply outsourcing more but electing to use a **multi provider strategy**, and more deals are simply smaller in size. As first/second generation outsourcing deals (previously very large or "mega deals" signed with a single provider) are now being broken up, the resulting contract values are smaller than they would be otherwise.

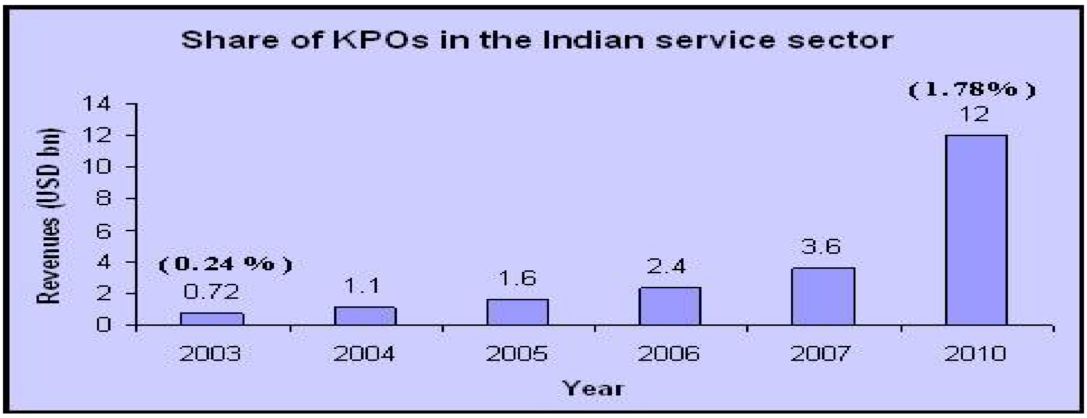
More organizations focused less on outsourcing to harvest cost savings than in previous years and more on using providers' global delivery models to access the right skills at a reasonable price, wherever they are. Notable this year, as well, was the **continuing evolution of utility delivery models.**

India's share is estimated to be around 25% of global BPO offshore market and 12% of the market for other services such as animation, content development and design services. Indian BPO industry employed more than 100,000 people in 2001-2002 and approx. 150,000 people in 2006-07.

In 2003, USD 0.72 billion revenue was generated by the Indian KPO industry, contributing around 0.24 % to the Indian service sector. This figure is expected to reach 1.78 % by 2010. A CAGR of 49.5 % is expected by Indian KPO sector between 2003 and 2010.

The KPO industry in India had only 9,000 billable professionals in India that generated revenue of US $ 260 million during 2000-01 and this number has already grown to 75,400 by 2006-07. These billable professionals generated US $ 3.05 billion, thereby growing annually at 51 percent in US Dollars and 43 percent in terms of billable professionals over the past six years.

There are about 64 s and 23 captives in the KPO segment and only a few of them have demonstrated expertise in the actuarial services.



Insurance outsourcing

Insurance companies tend to follow cautious approach and have traditionally been among the slowest adopters of outsourcing/ off shoring. But in the past few years the market has changed as a result of shrinking margins, higher claims disbursement and increasing competitions, especially since September 11, 2001. The size of the insurance industry, with over 1,500 property and casualty insurance companies and 1,300 health insurance companies in the U.S. alone, makes insurance outsourcing an attractive market.

The Indian off shoring industry is particularly strong in this sector. Total estimated revenues from offshore insurance business process outsourcing (BPO) services from India were expected to rise from US$790 million in 2007 to about US$2 billion by 2010. Employment in the Indian insurance off shoring sector is likely to increase from 41,600 to 100,500 in 2010. India has several benefits as a leading insurance outsourcing destination:

- Low cost advantage
- Established destination for outsourcing
- Indian companies offer near-shore services
- Indian IT outsourcers can leverage their existing relationships with large insurers
- Indian service providers are expanding organically and inorganically to establish a multi-location presence and to de-risk their business.

By 2010, a large number of Indian service providers are expected to evolve into mature, end to-end s, competing with multi-national outsourcing companies.

As insurance services mature and more high-end processes like **actuarial** and underwriting services move to India, the BPO industry is expected to grow further.

2. Actuarial services delivery centre – business models

Very recently in a survey conducted on senior management executives and outsourcing experts outlined 10 most important factors for successful outsourcing as:

- Understanding company goals and objectives
- A strategic vision and plan
- Selecting the right
- Ongoing management of the relationships
- A properly structured contract
- Open communication with affected individual/groups
- Senior executive support and involvement
- Careful attention to personnel issues
- Near term financial justification
- Use of outside expertise

Taking these factors into account, Montonen (Vice president - Gartner, BPO and offshore practice lead) prescribed a four phased outsourcing model:

- a sourcing strategy, (Where/how to sources and Which Processes)
- evaluation and selection (Whom to source)
- contract development and,
- sourcing management (Monitoring the performance)

Establishing Sourcing strategy

At the beginning itself, we should be clear what we want out of outsourcing. Company should go beyond the obvious and should try to get value based and sincere answers for questions like "Why am I doing this?" "What are the risks?" and "What kind of relationship do I want with a provider?" We need to ask ourselves, are we outsourcing to:

- Accelerate reengineering benefits
- Access to world class capabilities
- Cash infusion / Make capital funds available
- Free resources for other purposes /core business activities
- Function difficult to manage or out of control
- Improve company focus
- Reduce and/or Control operating costs
- Reduce/ Share risks (for example Minimizing risk through multiple delivery locations)
- Resources not available internally
- Cater Technology risk

Do we have a strategy to take care of the following?

- Cultural differences
- Perception of loss of control
- Local data protection and regulation

Not all outsourcing relationships are the same; especially in case of actuarial processes it's bound to be different. One of the biggest factors in a failed outsourcing project is when a company goes straight to the process of evaluation, without taking time to consider strategy.

Evaluation and selection of actuarial

Start building the evaluation and selection phase on the foundation of Sourcing Strategy. Simply putting out an RFP (Request for Proposal) and taking the lowest bidder might work in other cases, but in actuarial services we need to adopt an exhaustive and comprehensive approach. We should be clear about the very specific type of expertise company is looking for. Finding exact skill set and qualitative association is more important than the bottom-line price of service for core activities like actuarial.

This is stage to identify country where such expertise is available, best suitable partnership model, appropriative as per the parameters fixed at sourcing strategy phase. We also need to identify the processes to be out sourced.

Before selecting an actuarial service provider investigate the following:

- Operating experience in Actuarial services
- Commitment to quality and Additional value-added capability
- Price/ Financial Benefits
- References/reputation / Existing relationship
- Flexible contract terms / Level of management bandwidth
- Others like ability to hire & retain talent, Execution Speed, Location, Cultural match etc.

Comparison of countries for actuarial outsourcing can be made on the following parameter:

- Availability of actuarial Talent in the country
- Financial benefit /Cost
- Flexibility and Degree of control offered by local law
- Commercialization Potential
- Risk and Compliance
- Risk of partner compatibility
- Upfront Investment
- Ease to exit/ Cost to Exit

Selecting business model for actuarial services

The following three business models are considered for an actuarial service delivery centre in an offshore location.

1. Outsourcing to a third party vendor
2. Captive set up
3. BOT (Built-Operate-Transfer)

Each of these models has a number of variations based on the type, duration and long term objectives of the relationship. Though Joint-venture with the intention of commercializing the delivery centre is another possible model, we are not exploring it further in the paper.

Outsourcing to a third-party vendor

It's an arms length outsourcing agreement with a third party.

Pros	***Cons***
Faster installation *Lower up-front capital cost* *Viable even at small scale* *Exposure to country-specific risks limited* *Overall, reduced risk and hence preferable option for first time offshoring*	*Savings reduced by the vendor margin* *Mature vendor landscape not present in some offshore market (but this is not a problem in India)* *Ongoing vendor management required* *Limited day to day control over processes – more difficult to make changes*

Captive set up

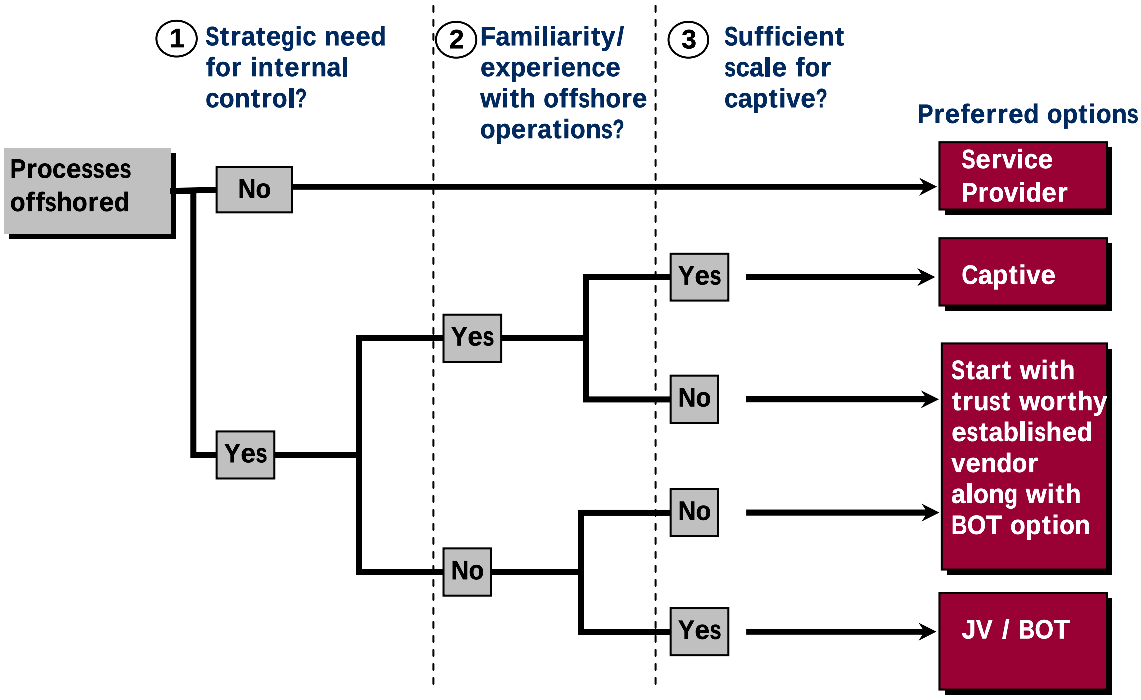
It's a fully or majority owned subsidiary.

Pros	***Cons***
Highest potential cost savings *Greater control over critical and sensitive processes (an actuarial process from a consulting environment could be an example – but a third-party vendor with demonstrated expertise in such services could be relied upon as well)*	*Considerable build out time and investment involved* *Not feasible for small scales eg 300-400FTES (full time employees)- a number of actuarial process will be of small scale* *Full exposure to in-country risks and the risk of carrying headcounts on own books*

BOT (Build-Operate-Transfer)

It's mid-way route between outsourcing and Captive. You start with outsourcing with an understanding to build and eventually transfer the process to Captive. This is a bit tricky and comes with its own challenges. The transition to captive from a third party environment is a straight forward exercise. This needs very careful planning and requires high degree of the third-party vendor's co-operation. There are likely to be a number of conflicts arising in the process. Employee expectation management is a key problem area in such an arrangement.

The following flow chart gives a high level view of how one can go about thinking on the different options.



It is important that the following aspects are factored into the decision making:

- The key objectives of outsourcing the actuarial process such as
    - Redesign the delivery model to move from consulting delivery mode to top down standardized delivery model
    - Reduce cost to make the core service (re-occurring or compliance driven activity) offering more competitive
    - Evolve the centralization strategy for core service delivery
    - Technology up-gradation and centralization
    - Establish an offshore pilot program for delivery of core services

- The gaps in the existing service model such as
    - Build documentation
        - Detailed Process flows
        - Standard operating procedures
    - Establish performance metrics
        - Build Metrics & operational definition
        - Baseline current performance
    - Performance dashboards and reporting mechanism

  - o Drive continuous improvement using Six Sigma
  - o Help transition from client centric operations model to process centric delivery model
  - o Drive standardization & business process optimization
  - o Build a robust & scalable training engine
  - o Provide resource augmentation
  - o Create an option for providing core service delivery from the delivery centre
- the choice of the vendor and the business model needs to be looked at in conjunction with each other – though a particular model is preferred given the objectives and the process characteristics, the vendor chosen might not have expertise in executing the plan and vice versa.

Here is a brief description of the three major benefits that are often talked about in the context of outsourcing.

Centralization

- Actuarial Process migrated from various client locations to a Delivery Center
- Delivery Centre provides support to multiple offices
- Standard Operating procedures developed

Standardization

- Process rationalization through development of client exception metrics
- Establishment of production benchmarks
- Quality & reporting methods standardized

Functionalisation

- Delivery Centre team structure optimized to enable functional competency development
- Movement from client-centric to process-centric processing environment
- Slice the process into pieces and ensure appropriate skill-sets are employed in each of the pieces (eg. actuarial processes typically comprises of significant amount of data activity which can be treated more of an analytics function than strictly actuarial)

3. Actuarial services delivery centre – setup & management

The actuarial processes typically fall into the following categories:

- o Recurring activities – project-type or transactional type (e.g. statutory actuarial valuation, experience analysis)
- o Special one-off projects/studies (e.g. cash-flow projections relating to a proposed change in a pension scheme design)

The actuarial process outsourcing (APO) has its own distinctive characteristics as follows:

Person and judgment-driven

APO work requires insight and analysis based on skills, experience and judgment. The result and the recommendations are driven by judgment rather than by rule-driven processing.

Process can provide a guideline

Processes/services are performed based on skills, domain knowledge and intellectual capability. The process can provide a guideline but not a deterministic set of rules.

Process is complex

The process is complex and requires many steps. It calls for interpretation, analytical skills, reasoning and the exercise of judgment.

Skill set requirement

It requires higher order analytical, logical reasoning skills, ability to learn complex software, ability to understand and follow complex regulatory provisions and accounting principles

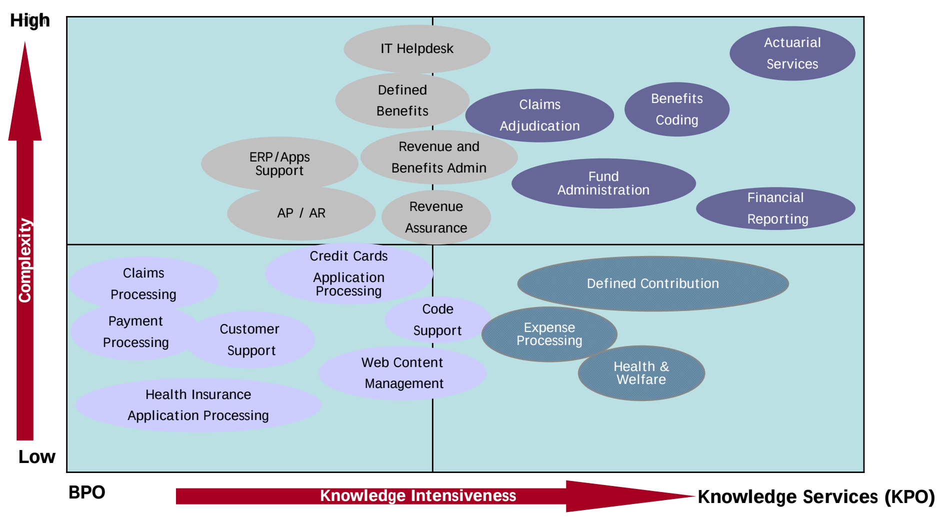
Global team-work

APO usually entails outsourcing part of a larger process (e.g., experience Analysis, Data Preparation for Valuation). There will be several handoffs and peer review. By its very nature, it's a team work and global in nature.

Actuarial skills travel well

Barring regulatory and terminological differences, the fundamental actuarial principles remain applicable across the boundaries. This enables a delivery centre to serve multiple geographies without necessarily going through the full knowledge transfer exercise once it is established for a particular geography.

As mentioned earlier, the actuarial services fall at the complex end of the KPO and they usually have a long & steep learning curve which makes resource retention & development a key aspect. The following diagram shows how an actuarial process compares with other typical BPO & KPO processes in terms of complexity and knowledge intensiveness.



A typical transition plan for an actuarial process would typically follow these steps:

Initiation and planning

- Assign Actuarial Program Manager
- Core Team set-up
- Set-up Communication Plan
- Re-validate Scope of Work
- Understand high level details:
  - High Level SIPOC
  - Operations
  - Technology
- Establish high level Project Plan
- Understand Productivity / Quality and SLA related parameters

Onsite knowledge transfer

- Core team trained onsite
- Understand the process flow
- Consolidate training material
- Understand the client's standard procedures
- Understand documentation / audit trail aspects
- Decide on the duration, scope and success measures for the pilot
- Decide upon the support mechanism for case study

Pilot

- Execution of the pilot program
- Very close monitoring of the progress
- Validating & base-lining effort requirement for the process
- Identify any knowledge gaps or quality / productivity issues
- Test the technology solution
- Internal expertise built up from the queries resolved & feedback from onsite support team

Go Live

- Start to work live
- Validate the onsite support mechanism
- Identify knowledge gaps
- Continued internal expertise built up from the queries resolved & feedback from onsite support team
- Evolve the training content
- Develop Performance monitoring mechanism

Ongoing knowledge transfer

- Fill the knowledge gaps
- Short-term onsite training / conference calls / web meetings
- Mechanism for keeping the delivery team up-to-date on regulatory and process changes

Typical challenges during the transition are:

- Core-team hiring -apprehension over the survival of the project
  - the third party vendor and/or the client's brand image, expertise and market leadership should help overcome this to a large extent

  If the vendor has got similar processes then this should help alleviate the apprehension in the minds of prospective employees since the vendor can absorb them in other processes even if the pilot does not succeed.

- Knowledge transfer
  - Regulatory environment and terminology varies between countries though the fundamental actuarial principles remain the same – the on-site knowledge transfer should be designed to fill this gap
  - Pilot approach would also help the knowledge transfer from a practical stand point and would also validate the effectiveness of the on-site training and fill the gap in the knowledge transfer

- Technology setup
  - The complexity actuarial software and also the data security and information privacy issues warrant a careful planning and testing of the technology well in advance to avoid any delay in getting the process up and running.

- Delay in transition
  - Executive sponsorship at both ends
  - Build redundancy
  - Significant involvement in training of offshore resources

- Cultural risks
  - Cultural training as part of curriculum
  - Invest in acclimatizing offshore resources with training and development, onshore visits

Examples of actuarial functions that can be off-shored are as follows:

- Life insurance
  - Underwriting
  - Pricing and profitability testing
  - Statutory Valuation
  - Experience analysis
  - Statutory reporting
- General insurance
  - Loss monitoring
  - Reserving
  - Statutory reporting
  - Pricing
- Pensions and other retirement benefits
  - Funding valuation

        - Accounting valuation
        - Benefit calculations/statements
        - Discrimination testing
- Health and Care insurance
        - Claim analysis
        - Reserving
        - Fraud detection analysis
        - Trend and variation analysis (medical cost, practice etc.)

While monitoring the on going processes it's imperative not to loose the attention from the following risks that can cripple the very purpose of outsourcing.

Strategic Risks

Inappropriate model selection
- Conduct through analysis for all the model
- Select the most appropriate model that meets majority of sourcing and execution considerations

Partner incompatibility issues
- Select the most appropriate vendor based on degree of flexibility, investment and executive level commitment

Failure to capture projected savings
- Build robust mechanism around financial reporting of the projects
- Conduct regular review session
- Focus on business process re-engineering/improvement

Financial risks associated with deal construct
- Select the most appropriate model and country that maximizes value

Risk of inheriting significantly high cost structures in BOT
- Conduct assessment on cost structure of the vendor from the year 1 of operations build
- Benchmark cost structure of the vendor vis-à-vis market prevalence

Operational Risks

Service quality degradation:
- Build a robust program management and governance model
- Robust QA audit by Off shore team before final work goes to the Client
- Client's Actuaries peer review and sign-off on the final reports

Staffing levels not met:
- Build a solid staffing model with the requisite buffers to cater to attrition/absenteeism

Quality control risk:
- Develop an entry and exit criteria for all the projects
- Stringent quality audits by peer reviewer and Team/Process Manager

Intellectual Property risks:

- Fool-proof Data protection measures in place
- Develop a solid compliance/regulatory framework

Confidentiality risk**:**

- Strong Information Security policies in place
- Non-disclosure agreements in place with each and every employee

Regulatory Risks

Compliance Risk:

- Implementation of consistent, enterprise-wide compliance policies and procedures to ensure 100% compliance to regulatory parameters

We discuss below the key challenges in the operational management and how they can be overcome

Attracting and retaining talent

- Functionalizing of the process so that some part of the process can be handled by non-actuarial skill set
- Put in place a decent actuarial study program
- Provide opportunity for key individuals participating in Actuarial seminars and conferences relevant to the domain
- Regular interaction – 0ne-on-One, Skip Level Discussions, Business Updates etc.
- Career pathing
- Rewards & Recognition schemes
- Soft skills training (e.g. communication, leadership, client relationship etc.)
- Ensure a decent work life balance

Knowledge retention & sharing

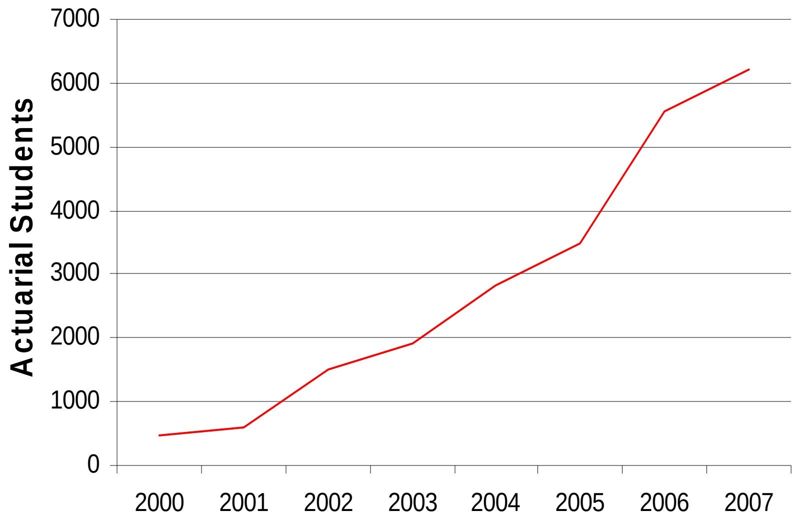
- Create and maintain a knowledge repository (capturing of learning from previous projects, changes in business environment and marketing conditions)
- Detailed documentation of process steps to make it as people-independent as possible
- Succession planning
- Expose individuals to varieties within the process boundaries

Communication & culture sensitization

- Encourage more verbal interaction
- Put in place a clear communication & escalation protocol
- Exchange of resources across the boundaries
- Training on effective communication and active listening skills

India is emerging as a preferred outsourcing destination for the following reasons.

- Fast growing supply of actuarial talent in India(refer to the chart below)



- Large supply of mathematics/statistics graduates who can be trained to do actuarial work
- Fast turnaround times and the ability to offer 24x7 services based on the country's unique geographic location that allows for leveraging time zone differences.
- Strong quality orientation among players and their focus on measuring and monitoring quality targets.
- Proactive and positive policy environment which encourages investments and simplifies rules and procedures.
- A friendly tax structure

4. Summary

Actuarial processes have distinctive characteristics which needs be clearly understood and factored into the outsourcing decision taking process. It is complex and requires a holistic approach in terms of knowledge transfer, building up training capabilities and resource management. Robust transition plan coupled with an Effective training engine should ensure the knowledge management and continuous flow of resources.

Most of the other operational governance aspects of BPO industry would equally apply to the actuarial processes outsourcing also. The s must realize that these services are different from others and besides understanding the goals and objectives of the out sourcing company they need to have a pulse for actuarial services. Sharing strategic vision & plan, ongoing management of the relationships, involvement and support of senior executive creates bone structure.

Given that majority of the actuarial processes are of project type in nature, project management skills becomes very critical in meeting the timelines and quality standards. This involves planning, understanding the scope of the project (each project might be unique on its own), effective communication, close monitoring of the progress and dynamically adjusting the resources/timelines etc. Also, the inherent seasonality due to statutory reporting requirements would mean cross training and using the resources for internal or one-off type of studies becomes another important consideration in order to engage the resources productively throughout the year.

India has a fast growing actuarial talent pool and a matured outsourcing industry. A few s in India have shown process excellence in the actuarial services domain and a number of others have demonstrated capability to manage complex analytical services. India is thus increasingly recognized as a force to reckon in the actuarial outsourcing arena.

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