

## Education

**Fellow Society of Actuaries,  
SOA, Schaumburg, IL, 2001**

**MBA, Finance & Entrepreneurship, Dean's List**  
Columbia Business School, Columbia University, New York, 2000.

**Bachelors of Computer Science**  
ICS FAST, University of Karachi, Karachi, 1992.



## Profile

25 years of successfully transforming ideas into commercial reality enriched by international & cross-functional experience. Successful execution of 500 plus engagements on 4 continents. Foundations in management consulting (25 years), Financial services (25 years), Asset Liability Management (15 years), Information technology (25 years) and actuarial practice (25 years).

- Publications:**
1. Models at Work, Palgrave Macmillan, UK, 2014.
  2. Option Greeks Primer, Palgrave Macmillan, UK, 2015.
  3. Economic Capital – An alternate copula free approach, ERM Monograph, Society of Actuaries, US, 2016.
  4. Reboot – In search of the land of opportunity, Alchemy, 2006
  5. Portfolio Optimization Models in Excel, Alchemy, 2017

### Expertise:

- Appointed actuary.
- Performance benchmarking for profitability improvement in financial services.
- Risk based capital, investment and portfolio management.
- Asset Liability Management, Treasury, Securitization & Transfer Pricing.
- Basel II market, credit and operational risk management framework.
- Centralized & distributed Middle & Back office design, integration and deployment for banks, mutual funds, and insurance companies.
- Valuation and reserving of contingent products in life & general insurance.
- Delivering institutional skill development & capacity building programs.
- M&A due diligence of financial services targets.

### Key customers, employers and clients:

- Investment Banks – Goldman Sachs, Merrill Lynch,
- Insurance Companies – State Life Insurance Corporation, Adamjee Insurance, Dawood Family Takaful, Pakistan Reinsurance Corporation, Met life, Asia Health Care, Hartford Life, Manu Life, ING, AIG, Aegon, American General, Transamerica, Sun America, Equitable / AXA, Sun Life, All State, Lincoln National, & Nationwide.
- Banks & others – International Housing Finance Limited (IHFL), State Bank of Pakistan, SECP, Karachi Stock Exchange, Mashreq Bank, Noor Islamic Bank, First Gulf Bank, Riyad Bank, Dubai Islamic Bank, Tameer Bank, Washington Mutual Bank, Sakura & Mitsui Bank, Fidelity Investments, Deutsche Bank, Financial Markets Association of Pakistan, Crescent Lease, Union Bank, National Bank, Muslim Commercial Bank, United Bank Limited, International General Insurance, ABN AMRO, PICIC, Pakistan Kuwait Investments, KASB Bank, KASB Brokerage, KASB Capital, Prime Bank, Saudi Pak Bank, MyBank, First Dawood Islamic Bank, Soneri Bank, Shell Pakistan, ICI, Glaxo Smith Kline.

## CEO & Actuary

### **Alchemy Technologies (Pvt.) Ltd., Karachi, Dubai, Singapore.**

Consulting practice focusing on risk management, capital adequacy, asset liability management, training and actuarial services. Built credible regional presence in Middle East and Far East, acquired blue chip clients including the domestic central bank & the

**01/2003 to  
Current**

securities regulator, financial services industry associations (PBA, FMA), three of the five largest domestic treasuries, the largest foreign petrochemical distributor & Asian Development Bank. Added partners in Dubai, Bahrain, Bangkok, Singapore & Brunei.

- As an investment advisor advised a 3 billion US\$ dollar life insurance fund on ALM and funding mismatch, allocation and bid patterns for 10, 20 and 30 year bonds; a 30 million dollar Middle East Life fund on ALM Mismatch and resultant fixed income strategy; a 10 million dollar fund on asset allocation and equity market timing. Became the primary buyer of 15, 20 and 30 year Sovereign Investment bond in Pakistan for three years and helped shape the national yield curve at higher maturities.
- Built and deployed Capital Adequacy, Risk, Asset Liability Management, Stress Testing, Liquidity profiling, derivative pricing & treasury platforms at 9+ financial institutions in an emerging market with dry secondary markets and limited trade and execution related data. Identified data sources, interpreted results, built consensus on assumptions, helped board members and CxOs translate implication for business, liquidity and risk capital.
- Completed multiple bank portfolio, risk & technology due diligence exercises as a senior consultant reviewing corporate loans, mortgages & consumer assets for performance, provisions, credit rating & post acquisition risk.
- Engaged by the Central Bank of Pakistan and the Pakistan Banks Association twice as a national expert on Basel II Regulation, Liquidity Risk management and Risk Management frameworks for the banking industry in Pakistan.
- Worked with the Securities regulator on assessing the state of the corporate bond market, market making for troubled debt issues and addressing liquidity issues for income funds and debt markets in the mutual fund industry. Issued valuation opinions on cross currency swaps, interest rate swaps, caps, floors, participating forwards and contingent liabilities for Exchange Guarantee Funds in the region.
- Appointed actuary for the second largest life insurance company in the region with more than 3 billion dollars in assets under management, 6 million covered lives and a regional network in Pakistan and the Middle East. Consulting actuary for the largest property and casualty re-insurance operator and Pakistan responsible for estimating premium deficiency reserves.
- Initial feasibilities, projections, evaluation and business plans for traditional and micro pensions, micro insurance, low income housing finance, interest rate options, inflation protected products, equity indexed products, foreign exchange, technology reselling, lifestyle products, mutual funds and insurance distribution solutions as well as their presentation in front of representatives of Multi-lateral Donor agency, project sponsors and client boards of directors.
- Designed and delivered 8 part treasury products distribution enablement program aimed at corporate bankers, financial controllers, relationship managers and credit risk teams for three 10 billion dollar banks in the Middle East.
- Designed products, distribution systems, incentives & compensation structures for two green field life insurance companies in Pakistan as the Appointed Actuary.
- Design, development and deployment of Alchemy product platforms for Enterprise Risk, Basel II reporting, Asset Liability Management, Stress Testing, Internal Capital Adequacy Assessment, Probability of Default calculations, Internal Ratings and Treasury management. Advisory services on Middle Office redesign, Risk Management Function assessment, Basel II gap analysis, evaluation and implementation strategy as well as Derivative and structured product development and modeling solutions for bank treasuries.
- Conduction of 200 plus interactive, model building & validation workshops on Cross Selling Treasury Products, Product Development, Enterprise Risk Management, Fixed Income Models, Derivative Pricing, Interest Rate Swaps, Caps & Floors, Market Risk Capital, Interest Rate Models, Portfolio Optimization, Structured Solutions and Fixed Income Derivatives in Karachi, Lahore, Islamabad, Riyadh, Bangkok, Singapore, Kuala Lumpur, Colombo, Abu Dhabi, Ajman, Manama, Nairobi, Brunei & Dubai. Trained more than 3,000 corporate, investment banking and treasury professionals, logging 1,700

plus instruction hours with an average score of 4 plus out of 5 on participant feedback on learning experience, expectations, delivery, market relevance and domain knowledge.

**Adjunct Professor**  
**2007 - current** **SP Jain Institute of Management and Research (SPJIMR), Dubai, Singapore**  
SP Jain has been ranked as a top ten one year international program by Forbes and a Global top 100 program by both FT and the Economist. Engaged by SP Jain to run the computational finance and entrepreneurship curriculum for EMBA students.

Consistently ranked as one of the highest rated professors in both Finance and Entrepreneurship as evidenced by student rating bonuses and awards. Taught Entrepreneurship, Financial Derivatives, Risk Management, Project Finance and Portfolio Management to Executive MBA and Global MBA students at the Dubai and Singapore campuses.

**Director, Product Development**  
**06/2002 to 12/2002** **AnnuityNet Inc, Herndon, Virginia.**  
Market leader in order entry, distribution and transaction processing solutions for annuities and tax advantaged savings products. Championed & executed Information Technology, Business Engineering, Product Development and Strategic Initiatives.

- Led the charge as facilitator, consensus builder and subject matter expert in 21+ customer implementations (5 broker dealers, 16 insurance carriers and 100+ insurance and savings products). Resolved issues by building bridges and educating internal and client operations, actuarial, back office, technology, quality assurance, business development, product design, and project management teams. On rollout, platform averaged 30,000 transactions per month representing an annual dollar volume of 12 billion US\$ in late 2002.

**Assist. Director**  
**09/2001 – 05/2002**

- Provided strategic development, planning & reporting support to CEO & CIO.
- Defined, created, staffed and managed Product Development function (2 Actuaries, 4 Analysts, 5 consultants). Delivered products for Commission Reconciliation, Money Settlement, Channel Reports, Transaction Order Entry & Transaction Processing.

**CEO**  
**8/1999 to 5/2001** **Avicena LLC, Santa Ana, California**  
E-learning startup targeting corporate training within investment banking sector. 21 months of front line, start-up exposure as Founder/CEO. Successfully raised seed capital, delivered technology platform to production environment, signed up customers and launched the product at the Society of Actuaries annual exhibition in Chicago.

- Identified and selected target segments, positioning & marketing strategy.
- Created and presented business plan to incubator and investors.
- Nurtured relationships with alliance partners, beta customers & vendors.
- Designed and implemented content generation, technology, quality assurance & communication processes for US and offshore teams.

**Fall Associate**  
**09/1998 to 12/1998** **Goldman Sachs International, Prime Brokerage, London, UK**  
Tasked to independently review the risk group at the hedge fund margin lending desk immediately after the collapse of Long Term Capital Management.

- Worked with Firmwide Risk to extend Value at Risk framework to Currencies, Fixed Income Instruments, Derivatives and Convertible Bonds.
- Recommended adjustments for liquidity, convertible and foreign exchange risk.
- Created Convertible Bond Pricing, embedded options & Greeks estimation tool.

**Manager**  
**01/1995 to 04/1998** **SHMA Ltd, representing Andersen worldwide, Karachi, Pakistan**  
Managed portfolio of eight international clients (US, Europe, Middle East) from point of contact to project implementation. Between 1996-98, grew team from two to eleven professionals and three project managers. Revenues increased twelve folds.

- Analyzed, designed, programmed, and reviewed actuarial, insurance, brokerage, back office, accounting, financial reporting, inventory & resource planning systems.

**Asst.  
Manager  
02/1993 to  
01/1995**

- Recruited & trained team members for development, client facing & project management roles.
- Researched & developed proof of concept prototypes and new practice areas.
- Actuarial liability valuations, valuation systems, product rate book generation, macro programming, illustration systems, actuarial opinions, demographic analysis, review of investment performance, investment selection and employee benefit plan designs.

**Speaking  
engagements**

Columbia Business School (NYC), Darden Business School (UVA), Society of Actuaries (IL, USA), OPEN DC Chapter, SP Jain Global Institute of Management (Dubai and Singapore Campus), TIECON, Dubai Tech Nights, ICS FAST (Lahore, Karachi Campus), Lahore University of Management Sciences (LUMS), SZABIST, Institute of Business Administration (IBA), Hamdard Institute of Management Sciences, Institute of Business Management, Reuters, Pakistan Association of Software Houses, MIT Enterprise Forum, Startup Insiders (Karachi, Lahore, Islamabad).