

Summary

Educator of Information Systems and Business Data Analytics with over 25 years of industry experience in IT, leading architecture, solution, delivery and operations of large-scale data warehouses and BI solutions.

Education

W. P. Carey School of Business at Arizona State University , Tempe, Arizona	Current
PhD in Business Administration (Computer and Information Systems)	
W. P. Carey School of Business at Arizona State University , Tempe, Arizona	May 2018
Master of Science in Business Analytics (MSBA)	
Birla Institute of Technology and Science , Pilani, India	May 1990
MSc (Tech) Instrumentation	

Professional Qualifications

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|--------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------|
| • Data Warehousing | • Econometrics | • Oracle Exadata, Teradata, IBM Netezza |
| • Business Intelligence | • Machine learning | • Informatica data integration and data management tools |
| • Reporting and Visualization | • Text mining | • Cognos, Business Objects, OBIEE, Tableau |
| • Data Architecture & Modeling | • Decision modeling and optimization | • Cloudera, IBM BigInsights |
| • SQL, Python, R, Stata | • Functional knowledge in Telecom, Supply Chain, Operations, Finance, & Service | |
| • Keras, PyTorch, Tensor Flow | | |

Professional Experience

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| Assistant Teaching Professor , Arizona State University | 2021- |
| <ul style="list-style-type: none"> Developing and teaching undergraduate courses in Information Systems and Business Data Analytics Directing thesis projects for honors students | |
| Director, Enterprise Information Management , Singtel, Singapore | 2013 - 2017 |
| <ul style="list-style-type: none"> Established, developed and managed high performance teams. Established multi-year IT roadmap for big data analytics. Led the architecture, solution and deployment of big data platforms – Cloudera and BigInsights. Led the strategy and deployment of enterprise data warehouse. | |
| IT Project Manager & BI Solution Architect , Motorola, Singapore | 2006 - 2013 |
| <ul style="list-style-type: none"> Led the conceptualization, solution / design & delivery of large-scale data warehouses. Project managed & delivered Collaboration Planning Analytics using B2B integrations with suppliers which established the framework for managing an extended supply chain. | |
| Data Architect / System Analyst , Motorola, Singapore | 1994 - 2005 |
| <ul style="list-style-type: none"> Developed the data architecture framework for IT applications. Pioneered the first dimensional-model data warehouse in Motorola IT. | |
| Analyst Programmer , Abacus Distributions, Singapore | 1993 – 1994 |
| <ul style="list-style-type: none"> Designed, developed & provided support for the frequent flyer program, PASSAGES. | |

Senior / Software Engineer, Infosys, Bangalore, India

1990 - 1992

- Designed and delivered several modules of the banking solution, BANCS2000

Research Assistantship

W.P. Carey School of Business, Arizona State University

2018 – 2021

- **Brand Affinity Analysis for Specialty Sports Goods Retailer**
Designed and developed an analytical platform for “Brand Affinity Analysis” to determine substitutes and complements between top brands and to analyze brand-switching trends. This was accomplished by creating a robust, sustainable platform using Python for data processing, MySQL for data storage, and R for association rules mining.
- **Deriving actionable insights from course evaluation**
Supported this research initiative by managing the database design in MySQL, data processing using Python, and econometric analyses using Stata.

Professional Accomplishments

Assistant Teaching Professor

W.P. Carey School of Business, Arizona State University

2021-

- Took the leadership role in enhancing the course CIS 415 (Big Data Analytics in Business) by reviewing the course content and technology used to better align with today’s industry. Successfully completed one semester (Fall 2022) based on the changed/enhanced course structure / objectives. Student evaluations provide testimony for the success of the new course structure (overall rating: 6.8 / 7).
- Actively participated in the discussions for reviewing and improving the Business Data Analytics program.
- Working on the “Database project” for the department with the overall intention to digitize and automate internal work to the extent possible.
- Directing Barrett undergraduate students for their honors thesis project. Offered honors contract for multiple Barrett students for the course CIS 415 – Big Data Analytics in Business
- Received the “Outstanding Teaching Award” for the academic year 2021-2022

**Director, Delivery and Operations, Enterprise Information Management
Singtel, Singapore**

2015 - 2017

- Established, developed and managed high performance team for EIM Singapore.
- Led the strategy and deployment for a new data warehouse based on Amdocs Logical Data Model (aLDM) as reference, built out in tandem with the new billing and customer care (BCC) transformation in Singtel and Optus. The new data warehouses were regionally aligned between Singtel and Optus, thus achieving standardization and reduced TCO for the build out. This strategy also allowed for the first time, a single business language across the transactional system, operational data store, enterprise data warehouse and reporting platforms.
- Led the architecture, solution and deployment of Cloudera, replacing IBM BigInsights.
- Led the initiative to implement data masking and anonymization for non-prod environments including downstream data feeds.
- Partnered with business users to establish the multi-year IT roadmap for big data analytics, including tools for business analysts and data scientists.
- Established better engagement model with business to align with their strategy, to provide regular updates on architecture roadmap, to review program / project delivery status and to provide update on major incidents in operations.
- Led by example in engagement with business users, enabling increased collaboration and partnerships and reducing the friction between EIM and business teams.

- Communicated the architecture strategy, focus & direction consistently to IT and business users. At the same time, I ensured that I change my course or decision in the event my initial assumptions were not valid after more information or facts were gathered.
- Collaborated with Singtel associates, namely Telkomsel (Indonesia), AIG (Thailand) and Globe (Philippines) on big data analytics strategy, tools & solutions.

**Director, Architecture and Data Management, Enterprise Information Management 2013 - 2015
Singtel, Singapore**

- Established the EIM reference architecture and roadmap for both Singtel and Optus.
- Established the multi-year roadmap for data warehouse by converging relational and big data platforms to achieve reduction in TCO with minimal risks to business continuity.
- Established the hardware landscape in Optus for data warehouse by evaluating incumbent and new technologies (like Teradata 6000 / 2000 series, Oracle Exadata and IBM Netezza).
- Established the charter for EIM architecture teams in Singtel and Optus with key focus on end to end ownership and governance of entire EIM landscape.
- Developed high performance architecture teams within a short span of one year.
- Established effective review processes that ensured project teams delivered the right solutions with high quality, on time and within the agreed budget.
- Established Cognos as the enterprise reporting tool for the organization while positioning Tableau and Qlikview as visualization tools for analytics and data discovery.
- Established Informatica products as the standard for data integration, data replication, data quality, test data management and for data/process offload to Hadoop platform.
- Led the evaluation, decision and deployment of real-time contextual marketing platform for Singtel's pre-paid business. Knowesis Sift was the product, built on top of IBM Infostreams.
- Led the architecture and solution for the initial build out of big data platform based on IBM BigInsights hadoop distribution, IBM Infostreams and Customer Network Experience solution from The Now Factory (TNF). Due to data accuracy issues in the mediation layer, this big data solution was not deployed into production. Subsequently, based on functional and commercial assessments, Cloudera was chosen as the partner for Hadoop big data platform.

**IT Project Manager & BI Solution Architect
Motorola, Singapore**

2006 - 2013

- Led the conceptualization, solution / design & delivery of EDW, having a strong dimensional data model at the core, extracting data from 20+ source systems (14 Oracle ERPs), achieving "one version of truth". This enabled end-to-end visibility to business users through operational reports and strategic dashboards in the areas of Order Management, Inventory, Receivables and Procurement serving multiple business functions such as Supply Chain, Business Operations, Finance and Service.
- As the lead Solution Architect, held the "custodianship" of EDW, providing direction & guidance to project teams for solution, design and execution. This helped to pro-actively manage design conflicts between concurrent projects and ensured strong data integrity and an uncompromised dimensional model in a multiple-releases-intensive environment.
- Successfully deployed & institutionalized a governance framework for data management and solution architecture within the BI team, which enforced standardization of data definitions, ETL processes and presentation layer catalogues. This was first of its kind within Motorola IT which enabled consistent interpretation by both IT & end-users, resulting in seamless sharing of EDW data across business functions.
- Collaborated with data owners & power-users from various business functions to successfully deploy Informatica Metadata Manager. This enabled end-to-end data lineage all the way from the Business Glossary to the source system details, through the core EDW dimensional model and data transformations.

- Project managed & delivered Collaboration Planning Analytics using B2B integrations with suppliers, which established the framework for managing extended supply chain. Tight timeline was achieved without compromising on quality by following an unconventional, creative approach to solution and micro-management of the WBS. This earned recognition for strong leadership and seamless execution.
- As the project manager & solution architect, led the solution, design & delivery of Supply Planning Analytics within Oracle BI Applications (OBIA). This helped the supply chain business to manage Global MRP and Demand Signals to suppliers. Demonstrated the ability to collaborate with business to simplify requirements and solution footprint. Technical challenges, such as “reverse pegging” capability, were overcome by iterative approaches resulting in innovative solutions.
- Led the solution & design for Service & Repair Analytics for the Post Sales & Services team. Extensive use-case analysis was deployed to manage unclear & ambiguous requirements. It was a big challenge to satisfy both operational & analytical needs with a single solution and was overcome by an innovative solution that encapsulated relational data model within the dimensional RPD-BMM layer of OBIEE.
- Enabled the smooth transition from one parent company (Motorola) to two spin-off companies (Motorola Mobility and Motorola Solutions) by playing the role of technical project manager for the EDW track. Good risk management coupled with effective out-of-the-box thinking helped mitigating challenges due to inter-project dependencies. Demonstrated the ability to keep the team motivated while the project was repeatedly impacted by requirement changes & design rework. The EDW track was applauded for a zero-defect deployment.
- Contributed to the improvement of front end (OBIEE) query performance by more than 90% by implementing “Abstract Layer Optimization” within EDW through Materialized views with “query rewrite functionality” of Oracle database.
- Reduced the data warehouse refresh window by 30% by deploying MD5 (checksum) and application-intelligent comparison techniques. Subsequently, institutionalized a pro-active process to incorporate such techniques as part of initial build effort itself.
- Defined the Global Reporting Roadmap, detailing the BI architecture strategy for the next 3 years, covering new deployments as well as legacy decommissions. This was done as part of the Business Transformation initiatives, collaborating with Enterprise Architecture team, Oracle ERP teams and Business Transformation Champions, providing an easy-to-understand visual view of the complex application footprint, resulting in effective impact analysis.
- Collaborated with the Process & Quality team to integrate BI specific standards, policies, procedures & checklists into the common IT SDLC framework.
- Participated in several evaluation initiatives resulting in the selection of the right set of tools, technologies and applications for BI/DW such as Informatica for ETL, “active data warehouse” concepts in EDW and OBIA for pre-built analytics.

**Data Architect / System Analyst,
Motorola, Singapore**

1994 - 2005

- Developed the data architecture framework for the entire IT applications landscape, encompassing charter, roles & responsibilities, governance, engagement rules and artifacts.
- Institutionalized data architecture reviews as part of M-Gates process for project life cycle. Engaged in several Asia IT projects to review & approve data architecture as per documented guidelines.
- Provided direction & guidance for data architecture, data modelling & process modelling for the Retail Channel Management implementation in China.
- Deployed & customized pre-built data warehouse solution from Informatica, using PowerCenter as the ETL tool & BusinessObjects as the presentation tool. This data warehouse became the one-stop-solution for both operational and strategic reporting needs for supply chain, business planning, purchasing, finance and factory support functions.
- Pioneered the first dimensional-model data warehouse in Motorola IT, which served as the decision support tool for the Sales & Marketing business of Asia Pacific Paging Subscriber

Division (APPSD). Engaged with external consultants to learn & bring valuable knowledge in data warehousing to Motorola IT.

- Designed & developed a data mart using multi-dimensional cube technology serving the reporting needs for Finance department.
- Designed & deployed customizations on Oracle Financials (version 9.3) and subsequent migration to version 10.6SC. Working with business users, gained in-depth techno-functional knowledge in General Ledger, Fixed Assets & Accounts Payable.

**Analyst Programmer,
Abacus Distributions, Singapore**

1993 – 1994

- Designed, developed & provided support for PASSAGES – a frequent flyer program for group of three airlines – Singapore airlines, Malaysia airlines & Cathay Pacific airlines.

**Senior / Software Engineer,
Infosys, Bangalore, India**

1990 - 1992

- Designed and delivered several modules, namely, Inland Bills, Clearing Transactions and Interbranch Accounts, as part of BANCS2000, an online transaction processing system to achieve total computerization of any bank branch.