

**Internship at
NTT DATA Information Processing Services Private
Limited, Bengaluru**

By

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1 Introduction:

Internship training is an integral part of the second year program, where we have to observe and learn the work culture of organization. Also it is necessary to participate in various department/activities so that we get first hand exposure of the different departments and work done in the organization and through which we can understand process of work and thereafter be able to involve ourselves in decision making.

I began my internship on February 6th, 2017 at NTT Data Services, Bangalore in Healthcare Applications Management Area that lies under Healthcare Consulting Track of NTT Data Services.

On the very first day I was issued ID card and system was allotted. We then had a session with the healthcare applications team leads following which I carried out all the HR formalities.

We were introduced to the core values and best practices of NTT Data Services and briefing about the organization was given. The next day our training schedule was given to us. I was trained about the complete U.S. Healthcare system, Hospital Information Systems (HIS), Electronic Medical Records (EMR) and Health Records (EHR). I found it very interesting. We discussed on the dissertation topics after a week for a while and then a topic was allotted to each intern. My dissertation topic was “A Systematic Review of Cloud Computing in Healthcare Domain”. An initial draft and timeline was prepared.

Later from the second week onwards I was put into a project. We started receiving project specific trainings thereon. Simultaneously I started working on my specific research heads which required secondary research on Cloud Computing in Healthcare.

I used NTT Data Services specified data sources to understand Cloud Computing in Healthcare scenario and alongside I did the project I was put in.

This was followed by continuous weekly reviews by my mentors and project manager at NTT Data Services, both from Bangalore and Noida and incorporated their comments which lead to a comprehensive and effective version of my research work.

2 Goals of Internship:

Internship is an integral part of the MBA-Hospital and Health management curriculum. As part of the curriculum, each student of final year is required to undergo internship with a reputed organization from February 6th, 2017 to May 5th, 2017.

1. To understand the work pattern of NTT Data Services, Bangalore, and its organizational structure.
2. To assist the administrator/manager in day-to-day operations. Through this process it was expected to gain practical knowledge and skills to handle managerial issues related to major activities of the organization.
3. To observe various protocols observed in the organization and try to acquire skills to accomplish them.
4. To observe mannerism of the existing employees and learn the culture of the organization. Inculcating soft skills is an integral part of understanding the organization. Observing human skills and understanding documentation, finance and accounting procedures will prepare for future managerial role.
5. To identify a specific problem area/areas of interest or a department (for example, human resource management, quality assurance, information system, risk management etc.) for the dissertation.
6. To diagnose critical problems within an operational area.
7. To provide the management with a set of alternative solutions, and
8. If possible, design and implement a plan to carry out the most feasible solutions.

3 About the organization:

Organization Overview:

NTT DATA is a top 10 global business and IT services provider and global innovation partner with 100,000+ professionals in more than 50 countries now with \$16B in revenue.

Headquartered in Tokyo, NTT DATA puts emphasis on long-term commitment and combine global reach and local intimacy to provide premier professional services from consulting, system development to business IT outsourcing. Since 1967, NTT DATA has played an instrumental role in establishing and advancing IT infrastructure. Originally part of Nippon Telegraph and Telephone Public Corporation, its heritage contributed to social benefits with a quality-first mindset. A public company since 1995, the company builds on this proven track record of innovation by providing novel IT solutions to bring results in greater quality of life for people, communities and societies around the world.



Who we serve

- Industry-specific consulting
- Digital business services
- BPO and BPaaS
- Business intelligence, analytics and automation
- Enterprise applications and SaaS
- Application modernization, development and management
- Cloud services
- Infrastructure management, security and hosting



Who we serve

- 50+ federal agencies and military branches, 25 states and municipalities
- 50% of U.S. hospitals, top 10 health plans, millions of covered patients
- Top 25 leading financial institutions in North America
- Top 10 automotive companies worldwide
- Manufacturing customers in over 40 countries



Who we are

- 100,000+ professionals in 50+ countries
- 6,000 research professionals and dedicated R&D facilities
- 9,000 SAP professionals
- 10,000 financial services and insurance specialists
- 15,000 skilled manufacturing resources
- Trusted U.S. government partner for 50+ years



What we do

- 10th Largest in IT Services Worldwide in 2015 by Market Share* (NTT DATA)
- 7th Largest in Global Implementation Services in 2015 by Market Share Worldwide+ (NTT DATA)
- A Leader in The Forrester Wave™: North American Workplace Services, Q4 2015+ (Dell Services)
- Leader in the NelsonHall Digital Transformation Services NEAT Evaluation+* (Dell Services)
- 12th Largest in Consulting Services in 2015 by Market Share Worldwide- (NTT DATA)

NTT Group consists of major companies like Nippon Telegraph and Telephone Corporation, NTT Communications Corporation, Dimension Data plc, NTT DOCOMO, INC. and many subsidiaries all over the world. Taking advantage of this opportunity of this scale, NTT DATA achieved a number of significant successes by collaborating with NTT Group and it provided enormous creative synergy.

The goal of NTT has been to create a foundation for future business by incorporating a number of overseas companies in order to establish a framework through which we can provide our diverse services, as typical Japanese courteous service, worldwide to support our customers' needs. As one of the global innovators, NTT are always challenging more innovative business approach and enhancing our creativity by respecting diversity.

John W. McCain is the Chief Executive Officer of NTT DATA Services headquartered in Dallas, Texas, USA. He is a member of the NTT Holdings Global Strategy Committee and serves as senior vice president of NTT DATA Corporation.

Dan Allison is the President, Global Healthcare and Life Sciences. As head of the company's largest industry segment, Dan is responsible for leading the growth, profitability and transformation of the global healthcare business, which focuses on provider, physician, health plan and life sciences clients. Dan has more than 30 years of leadership experience in IT outsourcing and business process outsourcing services in various verticals, with a strong focus in healthcare.

Americas

North America

In North America, NTT DATA partnered with a range of businesses and government agencies providing a flexible array of engagement options, including consulting, managed services, outsourcing and the cloud.

Leveraging strong technical know-how, practical industry insights, and global reach, it relentlessly drives improvement across systems and processes while increasing business flexibility. The company is focused on getting faster results with less risk, so its clients can flex their businesses to respond to changing market dynamics and capitalize on growth opportunities.

Latin America:

NTT DATA entered the Latin American market through the acquisition of the Value Team Group, a specialist in IT consulting and services. Today, the company provides a wide offering of

customized services and end-to-end solutions. The aim is to enable customers to grow and stand out from the competition by adopting innovative IT concepts and technologies.

Europe and Middle East:

Over the past few years, we have expanded our IT service networks in Europe through the acquisition of a majority stake in itelligence, Cirquent, Value Team, Intelligroup and Keane. NTT DATA Group offers best-in-class consulting services and enterprise solutions for industries in the manufacturing, banking, insurance, telecommunications, media, energy, retail, service and public sectors. Our consulting services range from business process consulting to conceptual design, implementation and integration, as well as the support, operation and maintenance of IT systems. Additional offerings include outsourcing, hosting and full-service solutions in the ERP environment.

APAC/ India:

NTT DATA positions APAC and India region as both an emerging market and the delivery resource pool to provide cost competitive and high quality service in our global strategy. The company address both multinational corporations and local client in this region. With global capabilities, NTT DATA support multinational corporations, primarily in Healthcare, insurance, automotive and electronics industries in rapidly growing APAC market. In addition, NTT DATA offer the services to local clients in both financial and public sector by leveraging our accumulated experience across the world.

NTT DATA in Healthcare:

Healthcare companies are balancing the quality and cost of care while serving a rapidly aging population and rising healthcare costs. At the same time, those firms are facing escalating competition, the feared patent cliff for many blockbuster drugs, and changing regulations and standards.

NTT DATA partners with some of the world's leading healthcare organizations to help them proactively manage their business through the use of information, data, and technology. In fact, its technology-enabled services support over thousands of organizations within the sector, enabling them to rapidly and cost-effectively adjust to dynamic market and regulatory demands.

Industry Recognition:

- Positioned by Gartner in the “Leaders” quadrant of the Gartner Magic Quadrant for Data Center Outsourcing and Infrastructure Utility Services, North America for the fifth consecutive year.
- Ranked “#1 IT Services Provider to Healthcare Providers,” by Gartner for the sixth straight year.
- Positioned as a leader in Everest Group’s “IT Outsourcing in the Healthcare Provider Industry—Service Provider Landscape with PEAK Matrix Assessment” for a third consecutive year.

4 A brief on application:

Cerner

In the year 1979 Cerner was founded by Neal Patterson, Paul Gorup and Cliff Illig. Its original name was PGI & Associates but was renamed Cerner in 1984 when it rolled out its first system, PathNet. Cerner is a leading U.S. supplier of health care information technology solutions that optimize clinical and financial outcomes. Around the world, health organizations ranging from single-doctor practices to entire countries turn to Cerner (NASDAQ: CERN) for powerful yet intuitive solutions. Cerner offers clients a dedicated focus on health care, an end-to-end solution and service portfolio, and proven market leadership.

Cerner's mission is to provide systemic improvement of the health of communities and health care delivery. Cerner, one of leading provider of health care information technology (HCIT) offers comprehensive range of professional services, software, remote hosting, medical device integration, employer health and wellness services. Cerner is the world's largest publicly traded health information technology company providing leading-edge solutions and services for health care organizations worldwide. Cerner's mission is to contribute to the systemic improvement of health care delivery and the health of communities. A person centric computing framework, which combines financial, clinical and management information systems provided on Cerner solutions offered on the unified Cerner Millennium® architecture.

Cerner, continuously building on our foundation of intelligent solutions for the health care industry. Its technologies connect people and systems at more than 25,000 facilities worldwide, and our wide range of services support the clinical, financial and operational needs of organizations of every size. Together with clients, they create a future where the health care system works to improve the well-being of individuals and communities. By designing leading-edge health information technology, they offer strategies that empower organizations to know, manage and engage their populations. The applications are developed with clinicians in mind so they can focus on people, not technology. And providers can manage their day-to-day revenue functions with our integrated clinical and financial systems. These helpful tools are designed to work for today and think for tomorrow.

Cerner's EHR supports an enterprise-wide view of clinical information to coordinate patient care and document the point at which it was delivered in both acute inpatient and outpatient settings. It helps providers have access to the right information at the right time and within the clinical workflows to make the best possible decisions. Our powerful decision support uses predictive algorithms to fire rules and alerts that inform physicians about patient safety.

The Cerner electronic medical record (EMR) is an integrated database that provides a comprehensive set of capabilities. Cerner created it to allow healthcare professionals to electronically store, capture and access patient health information in both the acute and ambulatory care setting.

Cerner EMR software allows you to:

- Provide real-time access to patient results and clinical information across care disciplines.
- Enable that healthcare organizations meet The Joint Commission requirements for patient confidentiality.
- Access patient information securely from wherever and whenever it is most convenient for the care team.

Key Benefits:

- Improve patient care as clinicians can focus on the patient's overall health and not just the encounter.
- Increase efficiency by placing real-time, updated information with the care team in time to make fast and effective decisions.
- Increase access to information from multiple venues in the health system.

Cerner has different EMR software solutions for various hospital and health system specialties, such as:

- Acute Care Electronic Medical Record
- CPOE
- Cardiovascular
- Clinical Imaging
- Community Hospitals
- Critical Access Hospitals
- Critical Care
- Document Imaging
- Emergency Department
- Knowledge Solutions
- Laboratory
- Oncology
- Point of Care
- Quality and Performance Improvement
- Radiology
- Reporting and Outcomes
- Revenue Cycle
- Technologies
- Women's Health
- Workforce Solution

McKesson

Paragon and HPF (Horizon Patient folder) and Radiology solutions of McKesson were made the complete Hospital Information System. It is mainly used for large hospital more than 500 beds. McKesson's EHR solutions offer practices both cloud and server-based solutions designed to help enhance care quality and improve physician workflow.

Paragon brings these advantages:

Helps reduce system complexity and lowered cost of ownership: Designed around a technology platform that helps reduce system operational complexity via a fully integrated clinical and financial system, a modern, non-proprietary operating platform and a Microsoft® SQL server platform.

Easy-to-use, comprehensive software applications: Paragon offers a broad suite of clinical and financial applications with anytime, anywhere access via the web.

Single vendor for all your clinical and financial needs: With Paragon, we provide hospitals and health systems a unique advantage—a single vendor partnership for all of your clinical and financial operations to help you navigate the health care landscape while efficiently maximizing the clinical and financial performance of your organization both today and tomorrow.

Microsoft® technology and architecture throughout: By using a single, fully-normalized Microsoft® SQL database as its core architecture, Paragon simplifies data management.

Strength and commitment of McKesson as your health care partner: McKesson provides strength, stability and resources unmatched in the health care industry. Our Better Health 2020™ initiative leverages our knowledge and experience across every aspect of health care to help you use IT more strategically for better connectivity, better business health and provide better patient care as health care reform unfolds.

NextGen

It supported ambulatory practices with technology, services, and expertise to drive better results – financially, clinically, and operationally – across their practice.

NextGen Healthcare's products include:

- NextGen Ambulatory EHR (Electronic Health Record): The NextGen EHR is primarily a single, all-encompassing database that combines user management, EHR and EPM. This database can run under MS SQL Server 2005, 2008 or Oracle.
- NextGen Practice Management
- NextGen Inpatient Clinical
- NextGen Inpatient Financials
- NextGen Patient Portal
- NextGen Health Information Exchange (HIE)
- NextGen Health Quality Measures
- NextGen Healthcare's services include:
 - Revenue Cycle Management (RCM)
 - NextGen EDI Services
 - Next Guard Data Protection

Meditech

NTT DATA supports the Meditech application. The healthcare technology industry is overdue for disruption and innovation. That's why Meditech has redefined what an EHR can do for patients and for productivity. Meditech unique mission is to enable customers to provide higher quality care, with greater efficiency, to more people, at a lower cost.

Meditech offers software for health care organizations of various types and sizes. Some of the software modules offered by Meditech include the following: Health Information Management, Revenue Cycle, Scanning and Archiving, Scheduling and Referral Management, Emergency Department Management, Cost Accounting, Data Repository, General Accounting, Human

Resource Planning, Supply Chain Management, Operating Room Management, Patient Discharge Instructions, Long Term Care Solutions, Behavioral Health Solutions, and Home Health Solutions.

Some other developments include:

- Working with partners and other companies to provide new technology solutions in the areas of business continuance, identity management, and RFID
- Incorporating evidence-based medicine into practice through integration with Zynx Health, Inc.

The development of a new Oncology product to better manage the complex needs of Oncology departments.

- Expanding medication management capabilities to include e-prescribing and medication reconciliation from Dr First, Inc.
- Offering standard interoperability suites to help customers transition to emerging EHR standards.

C3 (Cerner command center)

- Service Pack Install/Remove process – weekly on PRODs and –none-prods.
- Front-End Cerner Components Scans to make sure its intact with Warehouse.
- To take care of all IM's / RM's which are raised at night thru OPAS or the GVM system.
- Pro-Active Monitoring of all hub/site/domain and fix any abnormalities encountered using Monitoring system.
- Raise IM's/RM's on issues resolved.
- Create and work on request tasks from support mail box.
- Daily, Weekly and Quarterly task's activities being followed.

One FTE Co-ordination between onsite full time for any kind job to be taken care from Offshore:

- Prod Apps and DB monitoring and Support on all HUBs.
- Take-Over / Hand-over during Beginning and End of the shift.
- Replicate/Refresh – Domains refresh and replicate producers.

5 KEY LEARNINGS:

1. US Healthcare

- Healthcare in United States.
- Role of Government.
- Insurance Plans.
- US Healthcare Laws & Accreditations.

Different Healthcare Coding.

Global Healthcare.

Life Sciences.

US Healthcare Terminologies.

1.1 Provider

- Who is Provider?
- Types of Providers.
- Hospital Departments and Services Patient.
- Patient Encounters.
- Patient Life Cycle.

1.2 Payor

- Who is a Payor?
- Hospital Billing Process.
- Revenue Cycle Management.

1.3 Healthcare IT

- Hospital Information System.
- EHR/EMR components.
- Interfaces & Healthcare Standards.
- PACS.
- Medication Administration.
- MDI.