June 3, 2015

To Whom It May Concern:

I have been asked to review the duties and requirements for the position of Senior Lead Analyst at ███, a U.S. corporation headquartered in ███, and write an opinion letter whether or not the required skills, education, and experience (detailed below) bear a reasonable relationship to the occupation in the context of the employer's business and whether or not the requirements are essential to perform the job in a reasonable manner.

My opinion is based on a copy of an affidavit supporting the company's application for alien employment certification. The document provided to me clearly and unambiguously describes the duties, required skills, education, and experience: Summarizing, these are:

Job Duties: Formulate mathematical or simulation models of problems, relating constants and variables, restrictions, alternatives, conflicting objectives, and their numerical parameters. Collaborate with senior managers and decision makers to identify and solve a variety of problems and to clarify management objectives. Analyze information obtained from management to conceptualize and define operational problems. Collaborate with others in the organization to ensure successful implementation of chosen problem solutions. Study and analyze information about alternative courses of action to determine which plan will offer the best outcomes. Specify manipulative or computational methods to be applied to models. Develop strategies and solutions to resolve the Problems and improve the efficiency of the System by changes, alternate solutions or by adding new technologies to the Product. Enable data driven decision-making across the organization by leveraging descriptive and predictive analytics. Prepare management reports defining and evaluating problems and recommending solutions. Design, conduct, and evaluate experimental operational models in cases where models cannot be developed from existing data. Perform validation and testing of models to ensure adequacy and reformulate models as necessary. Observe the current system in operation and gather and analyze information about each of the parts of component problems, using a variety of sources. Assist in management of initial implementations including proof-of-concepts and pilots and work with extended team to develop new solutions to improve system efficiency.

Required Skills: In connection with the above, the Senior Lead Analyst must utilize No-SQL Databases; QoS in WiFi/LTE and IP Networks; Multicast on WiFiLTE networks; Various DDoS Attack types and Mitigation; network/protocol level work experience in telecom VOIP/UC/PTT domain; IP Security protocols such as TLS/DTLS/IPSec/SRTP; OMA Enablers for PoC/Presence/XDM; 3GPP - LTE technologies & Standards; IMS; WiFi specifications 802.11 series (a, b, g, n, e, k, r, and x); SMS/MMS network standards; ISUP/SS7; Computer Programming/Scripting; and SQL Databases.

Required Education and Experience: Master's Degree in Telecommunications, Electrical Engineering, Electronics Engineering, Computer Science or Engineering, or a related field plus 3 years of experience in job offered or 3 years' related work experience OR Bachelor's Degree in above-listed fields and 5 years' progressive work experience.

1

I have reviewed each of these requirements and I have determined that they are (1) normal within the industry, (2) justified by business necessity, and (3) that the skills necessary to perform the duties involved in the occupation could not be acquired during a reasonable period of on-the-job training.

To demonstrate that these requirements are (1) normal within the industry, one may check current job listings for positions with similar job titles. The following table shows the position title, organization, job duties, education and experience required from a search for similar positions on June 3, 2015.

Position / Company	Job duties that overlap with the ▇▇ position	Education / Experience Required
Data Modeler Application Analyst Veredus National[1]	Serve as a data modeler to develop conceptual, logical, and physical data models Develop and implement strategies and methodologies Work with product development groups/teams to assist with their use of application architectures Facilitate modeling sessions and design walk-through with DBA and development team members ... to ensure proposed database implementation conforms to the corporate strategy Write efficient SQL and store procedures against database tables and troubleshoot performance issues and provide necessary recommendations Lead all facets of the data modeling for application enhancements and existing production systems Work with application teams to develop data structures that meet the business requirements Will be responsible for creating, enhancing and supporting common features and platform services	Bachelor's degree, in computer science, engineering, information systems or related field and/or equivalent formal training or work experience 5+ years experience in Oracle data design, data architecture and data modeling (both transactional and analytic) 3+ years experience in relational data design and modeling in a large multi-platform data environment. 3+ years writing and optimizing complex SQL code. Experience with Oracle in support of the transactional systems modeling Experience with ERWIN modeling tool and associated repository is a plus Experience in performance tuning, client management, Agile Scrum is a plus
Sr. Business Analyst Orion Systems Integrators[2]	Write detailed business requirements within set time frames for implementation of computer systems. Review, analyze, and create detailed documentation of business systems and user needs, including workflow, program functions, and steps required to develop or modify computer programs. Analyze user needs and software requirements to determine feasibility of	Requires: Master's in Business Administration, Management, Finance or Computer Science + minimum 1 year experience as Business

[1] http://national.vereduscorp.com/category/data-analyst-architect-modeler/
[2] http://www.orioninc.com/Pages/Careers/careers2.aspx

Position / Company	Job duties that overlap with the ▮▮▮ position	Education / Experience Required
	design within time and cost constraints. Perform test case creation/scripting using the project requirements, artificial test data creation and analysis. Ensure continuing operational quality by documenting bug fixes and enhancements, assigning tasks to developers, testing and releasing updates. Utilize Rational Unified Process, Data Modeling, Business Modeling, Use Case Diagrams, Sequence Diagrams and Activity Diagrams, User Stories, Maintaining RAID and RACI document, GAP Analysis, BRD (Business Requirement Document), PRD (Product Requirement Document) and facilitating JAD and JAR sessions; Agile, MS Visio, TFS and ALM.	Analyst, Data Analyst, Financial Analyst, Systems Analyst (in IT field) or related.
Senior Data Consultant Agility Solutions[3]	Support telecommunications and oil and gas profit assurance projects. These projects typically involve data analysis to identify exceptions, research and validation of revenue improvement and cost reduction opportunities, and designing procedures for future monitoring. Query large databases to retrieve and analyze operational data sources • Interview and collaborate with client contacts to understand business and data processes • Develop ad-hoc queries to investigate data and margin inconsistencies • Collaborate with project teams to identify and create efficiencies while targeting opportunities for revenue or cost recoveries • Proactively analyze data to derive business insight and to advise on continuous process improvement • Exercise creativity and independent thinking by developing methods to identify and improve client margin issues	Bachelor's degree, emphasis in Information Systems, Computer Science, Statistics, Mathematics, Economics, Finance, Accounting or other relevant major 2-3 years' experience analyzing business data. Related data analysis roles may include Consultant, Financial Analyst, Revenue Assurance Analyst, Cost Management, Vendor Management, Analytics Professional, Business Analyst, Data Analyst, Business Intelligence (BI) Developer, etc.
Business Intelligence Analyst Viotech Solutions[4]	Supporting diverse projects and business areas by working within a Business Intelligence and Reporting team. Some of the responsibilities include requirements gathering, coordination, design, report and application customization and development, testing, and ongoing support of customer BI analytic needs and reporting Create logical and innovative solutions to solve complex problems Translate business requirements into easily understood reporting/analytical requirements and create the technical specifications document Ensure the security and integrity of institutional data Proactively collaborate and communicate with business users to analyze information needs and develop functional requirements.	Bachelor's Degree required; major in Business Administration, Computer Science, Engineering or related discipline preferred 3-5 years of business analysis experience required 3-5 years in Business Intelligence, Operational Data Stores, and Data Warehousing 3-5 years in Cognos or another BI platform 3-5 years in Oracle

---

[3] http://agility-solutions.com/wp-content/uploads/Agility-Solutions-Senior-Data-Consultant-Position-Profile.pdf
[4] http://www.viotechsolutions.com/Current_Openings.html

Position / Company	Job duties that overlap with the ▮▮▮ position	Education / Experience Required
	Develop reports to support data analysis needs of business users, including both ad-hoc and pre-defined reports using data from the Operational Data Store. Improve and streamline processes regarding data quality and data flow to improve data accuracy, value, and usability.	platform
Data Scientist Tescra[5]	Design, modelling, execution of Advanced Analytics Solutions in support of large scale data analytics efforts. Help to define key business problems to be solved; formulate mathematical approaches and analyze data to solve those problems. Support key operational efficiency, product effectiveness, and growth opportunity goals by applying advanced mathematical modeling, data mining and machine learning techniques Design, architect, and develop innovative analytic models for analyzing large scale structured and unstructured data (CRM, Social, Mobile) and gain actionable insights Design and develop predictive models, data mining, text analytics solutions including custom algorithm solutions (Recommendation Engines, Decision Support Engines ...) Visualize, interpret, report findings and develop strategic uses of data Work closely with product managers, business & data analysts to distill analytical & decision support requirements Develop and Support the entire lifecycle process from modeling, sampling, scoring, deployment, evaluation and refinement Support end users on ad hoc analysis and develop subject matter expertise on functional side of the business	Master's degree in Computer Science, Engineering, Applied Statistics, Operations Research or related field. PhD Degree preferred 5 years statistical modeling / engineering experience, preferably in one or more of the following areas (or combination thereof): o Customer Service o Telecommunications industry o Insurance / claims industry Proficiency in key statistical techniques (regression analysis, predictive modeling, decision trees, data mining methods, classifiers, neural networks etc.) Proficiency with modeling tools such SAS, SPSS or R

The table above illustrates that for a variety of positions where the job duties focus on business intelligence, data analysis, and mathematical/predictive modeling, the job duties are complex and require bachelors and higher academic degrees in computer science, engineering, and related fields with substantial experience. That experience typically yields proficiency with sophisticated tools under a wide variety of names/acronyms.

The Senior Lead Analyst at ▮▮▮▮▮▮▮ must have had not only advanced training in university courses, but also the work experience to understand how to work with teams of product engineers in the dynamic data communications industry. The Bureau of Labor Statistics Occupational Outlook Handbook, upon searching for "Management Analyst", states that "Many analysts enter the occupation with several years of work experience. Organizations that specialize in certain fields typically try to hire candidates who have experience in those areas." In this particular case, extensive experience is required due to the senior level of responsibility, the complexity of the job, and the expectations of management and team members—sophisticated product engineers. While education is absolutely necessary, it is not enough to be fully qualified to execute the positional duties. The individual must also

---

[5] http://www.indeed.com/cmp/Tescra-Inc/jobs/Data-Scientist-015e3545fd69e75a

have direct and relevant work experience executing these positional duties, especially those duties charging the Senior Lead Analyst to:

- Develop strategies and solutions to resolve the Problems and improve the efficiency of the System by changes, alternate solutions or by adding new technologies to the Product.
- Enable data driven decision-making across the organization by leveraging descriptive and predictive analytics.

An academically educated individual would possess a solid understanding of the concepts and techniques to develop such strategies, solutions, and new technologies for organization-wide improvement, but would lack the experience testing these concepts, techniques, strategies, and solutions in a real-world setting. To that end, the company's requirement that the individual must have a minimum of three years of progressive experience is reflective of the critical role this position has in the company's short and long-term future.

To demonstrate that these duties are (2) justified by business necessity, and to demonstrate (3) that the skills necessary to perform the duties involved in the occupation could not be acquired during a reasonable period of on-the-job training, one must know something about ██████████████ business. ████████████████ is an industry leader in Push To Talk (PTT) platforms. They partner with major wireless carriers such as ██████████████████ to provide service to customers over high-speed, high-quality networks. Their technologies need to work in the rapidly developing mobile device industry, serving mission-critical workers such as dispatchers and mobile employees. Reliability, speed, and security are of paramount importance.

How is ██████████████ able to stay on the lead edge of these emerging technologies? The Senior Lead Analyst is charged with developing models that will help ███████ product engineers test alternatives and improvements to improve efficiency, speed, and reliability. The analyst must therefore have a detailed understanding of telecommunications technologies, electronics, security technologies, and programming. Such understanding, in my opinion, cannot be learned on-the-job alone. Rather, it would be necessary to have the combination of an advanced academic degree, experience, and skill sets such as that specified by ██████████.

For the best chance of long-term success, improvements need to be data-driven. The telecommunications industry generates an enormous amount of data, and firms use powerful business intelligence software to "mine information" from these vast data warehouses. A search on "business intelligence" at the Department of Labor's Occupational Outlook Handbook (OOH) led to the duties of an operations research analyst, which overlaps with ████████ Senior Lead Analyst description in the following points:[8]

- Analysts use statistical analysis or simulations to analyze information and develop practical solutions to business problems.

- Analysts must first identify and understand the problem to be solved or the processes to be improved. Analysts typically collect relevant data from the field and interview clients or managers involved in the business processes. Analysts show the implications of pursuing different actions and may assist in achieving a consensus on how to proceed.

- Analysts use sophisticated computer software, such as databases and statistical programs, and modeling packages, to analyze and solve problems. Analysts break down problems into their various parts and analyze the effect that different changes and circumstances would have on each of these parts.

- Because problems are complex and often require expertise from many disciplines, most analysts work on teams. Once a manager reaches a final decision, these teams may work with others in the organization to ensure that the plan is successful.

- Some employers prefer to hire applicants with a master's degree.

- Many analysts typically have degrees in other technical or quantitative fields, such as engineering, computer science, mathematics, or physics.

- Based on quantitative analysis, students need extensive coursework in mathematics. Courses include statistics, calculus, and linear algebra. Coursework in computer science is important because analysts rely on advanced statistical and database software to analyze and model data. Courses in other areas, such as engineering, economics, and political science, are useful because operations research is a multidisciplinary field with a wide variety of applications.

The descriptive points from the OOH website may easily be seen as implied by the ▮▮▮▮▮▮▮ Senior Lead Analyst set of requirements. To build sophisticated models, the qualified individual must be able to specify what data needs to be captured, and based on a seasoned understanding of technological, economic, and market possibilities and realities, oversee the building, maintenance, and modifications of mathematical and computer-based models. The foundations and applications for these techniques and skills are learned in engineering and computer science programs.[9] To succeed in such courses, a student must have a substantial academic background. With my own doctorate in this area and having taught Management Science for 30 years, I am certain that the ability to understand, formulate, and use these models and their applications comes first from education and not from on-the-job training. Moreover, successful use of these academic skills requires experience. Indeed, the points cited above support the conclusion that the Senior Lead Analyst's job duties, required education, and required skill set all bear a reasonable relationship to the occupation in the context of the employer's business and the requirements are essential to perform the job in a reasonable manner.

We know that globally competitive telecommunications companies are using these business intelligence techniques and software tools. Thus, in order for ▮▮▮▮▮▮▮ products and services to succeed in the global marketplace, it is a business necessity that the individual who holds this position be adequately trained and skilled. It is entirely reasonable to specify that he or she have a Master's Degree in Telecommunications, Electrical Engineering, Electronics Engineering, Computer Science or Engineering, or a related field; 3 years of experience in job offered or 3 years' related work experience, or in lieu of Master's Degree and 3 years' experience, a Bachelor's Degree in the above-listed fields and 5 years' progressive work experience.

Opinion

The document provided to me clearly describes the duties of the position of Lead Systems Analyst. The duties are complex and technical in nature, and their description validates the education, experience, and skill requirements listed in the affidavit. It is my opinion that the critical skills for this position are the theoretical and practical skills that have accrued to a candidate with a Master's Degree in

---

[9] See, for example, the Operations Research -- Optimization courses that are part of the Industrial Engineering program at Purdue University: https://engineering.purdue.edu/IE/Academics/Courses
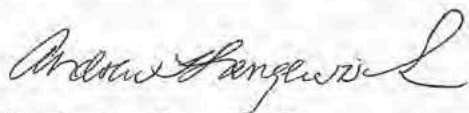
Telecommunications, Electrical Engineering, Electronics Engineering, Computer Science or Engineering, or a related field; 3 years of experience in job offered or 3 years' related work experience, or in lieu of Master's Degree and 3 years' experience, a Bachelor's Degree in the above-listed fields and 5 years' progressive work experience. The academic degree and work experience requirements do, in fact, bear a reasonable relationship to the occupation in the context of the employer's business, and the requirements are reasonable and essential to perform the job in in a reasonable manner.

Certifications

I certify under penalty of perjury that: I have an earned Ph.D. in Industrial and Management Systems Engineering from the University of Nebraska, and an M.B.A., from the University of Michigan, both accredited universities. In addition, I have taught full-time in the business administration department over the last 30 years at the undergraduate and graduate levels at Concordia University, an accredited university in the U.S. I regularly teach courses in Information Systems Design and Development and Management Science (essentially synonymous with the field of operations research[10]), areas related to the position description, and have authored refereed journal articles published, for example, in the European Journal of Operations Research. I am heavily involved with curriculum design. I serve as chair of the Department of Business Administration, and am primarily responsible for all accreditation efforts. I have written numerous expert letters for H1-B and O-1 petitioners. All of these letters, to my knowledge, have been accepted by USDHS or USCIS.

My opinions are based on my review of the duties for this position and on my educational and professional experience and judgment. Since I am in no position to authenticate any of the documents referenced herein, I am forming my opinion based on the assumption that the documents are correct.

If I can provide any further explanation of my conclusions, please contact me.

Dr. Andrew Langewisch
Concordia University
402 643 7303