

New

Ministry

Treasury Board and Finance

Describe: Basic Job Details

Position

Position ID

Position Name (30 characters)

Business Intelligence Analyst

Requested Class

Job Focus

Supervisory Level

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Organizational Structure

Division, Branch/Unit

☐ Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

Design: Identify Job Duties and Value

Job Purpose and Organizational Context

Why the job exists:

The Tax and Revenue Business Intelligence Analyst (Analyst) provides expertise and leads business intelligence for the division of Tax and Revenue Administration (TRA) in the Ministry of Treasury Board and Finance (TBF). Work conducted by the position directly contributes to the improvement to revenue management in the Government of Alberta. The incumbent uses their extensive experience with different analytics tools and methods to support evidence based decision making and tax and revenue planning for the Government of Alberta. This position supports the evolving functionality and utility of business intelligence and reports to meet changing user needs by coordinating resources and establishing and maintaining effective liaison and working relationships with a variety of management, staff, and stakeholders with competing priorities.

The Analyst develops and maintains business intelligence applications and supports report generation for major programs and program areas. This includes coordinating, developing, and implementing initiatives and projects required for knowledge management and data analysis.

The Analyst defines data, identifies patterns and emerging trends from the relationships between unstructured data; external structured data; and TRA's structured datasets; develops purposeful reports and a revenue reporting dashboard for senior management, the Assistant Deputy Minister and Deputy Minister. The Analyst will also collaborate with Senior Policy Analysts in TBF's Economic and Fiscal Policy group and

other internal stakeholders to develop meaningful information, purposeful reports and datasets. The application of advanced analytics allows for improved decision making and enhances TRA's tactical and strategic business processes. This will directly impact the government of Alberta and Albertans by ensuring that tax leakage is minimized, taxpayer compliance is maximized; and that reporting for actively managed revenue is timely.

Responsibilities

Job outcomes (4-6 core results), and for each outcome, 4-6 corresponding activities:

1. Provides expertise and leadership in the design and completion of analytics projects.
 - Conducts complex, cross-team business intelligence analysis and/ or data science projects, contributing expertise towards project planning sessions, developing project proposals, defining project scope, specifying project deliverables, drafting business cases, identifying milestones and resource requirements, monitoring project progress, and providing progress reports.
 - Leads the division's approach to modeling business problems, conducting large scale experimentations, discovering business insights and identifying opportunities using statistical, algorithmic, mining and visualization techniques, including automated reproducible and scalable data workflows.
 - Applies advanced data management and specialized analytic methods to support innovative and effective approaches to solve complex analytic problems with multiple data types and data sources.
 - Develops processes and tools to monitor and analyze model performance and data accuracy.
 - Make strategic recommendations on data collection, integration and retention requirements incorporating business requirements, privacy and legal consideration and knowledge of best practices.
 - Identify data analytics risks and implement mitigation strategies.
2. Develops data models and products for analytics projects.
 - Utilizes a variety of data science techniques - time series modeling, unsupervised learning, supervised learning, and classic regression to make predictions on financial and customer data sets.
 - Collects data and researches new methodologies that can be leveraged to develop statistical learning models for data analysis.
 - Provide expert advice and directs activities to gather requirements for information products with stakeholders and subject matter experts to fully understand, capture and gather data sources, identify business requirements and expected outcomes.
 - Identify relevance, availability and integrity of relevant data sources.
 - Gather, understand and document data requirements using appropriate tools and techniques.
 - Design, plan, and develop appropriate statistical modeling, algorithms and analytical methods.
 - Implement analytics methodologies, including models and statistical analysis in order to test hypotheses
 - Manages quality, transformation and integration of data and creates detailed model documentation that meets industry standards.
 - Creates a TRA data dictionary that is aligned with industry best practices and provides TRA with a documented and detailed understanding of its data.
3. Modifies and executes complex models for the continuous improvement of analytics capabilities which improve performance to support stakeholder information needs.
 - Identify gaps in client information products, available data, as well as reporting and analysis capabilities and assist in provisioning appropriate methods, models, and processes.
 - Remains current (through environmental scans, research, etc.) on best practices, leading methods, trends, tools and research to support the divisions continued success in adopting analytics.
 - Represents the division at cross-government working groups and committees to provide input related to analytical approaches and initiatives as needed.
4. Presentation of results, models and analysis to business stakeholders and GoA Ministries.
 - Interprets data to discover solutions, opportunities and present findings to management by utilizing data visualization and other means to meet the information needs of TRA and its stakeholders.
 - Provides accurate, visual and dynamic reports that are used to compare, correlate and forecast.
 - Supports the development and management of reporting, business intelligence and dashboard approaches, solutions and tools that support data governance and management goals.
 - Address concerns to enhance end-users' understanding of results

- Develop/ collaborate on production of reports, communication materials, seminars/ workshops and training.
- Address disclosure control and confidentiality issues prior to publication of analytical products.

Problem Solving

Typical problems solved:

The work environment is evolving and multi-faceted, requiring extensive knowledge, significant flexibility, professional judgment, and understanding of complex issues. The Analyst applies creativity and originality to responsibilities, often there is minimal precedent to guide activities therefore the Analyst integrates a variety of requirements and perspectives when applying data analysis expertise to the evaluation, development, and implementation of data analytics.

The Analyst is delegated considerable independence to exercise judgment when providing advice and consultation to clients and stakeholders. The Analyst develops and reviews project deliverables, strategies, work plans, schedules estimates and implementation plans and resolves and escalates issues which affect overall progress and the quality of the data project.

The Analyst will work within multiple program area and use subject matter expertise and judgment to determine the best approach and methodology to use for analytics projects. This includes participating in all aspects of the project life-cycle, including collection information, analyzing information, building models, and presenting results. The size and scope of each project/ initiative are diverse. The Analyst works with and/ or collects information from individuals at a variety of organization levels across the GoA and is a critical link between TRA and Service Alberta, to define and clarify requirements, implications, and opportunities associated with TRA's data and external data sources.

Types of guidance available for problem solving:

The Analyst drives the implementation and integration of data analytics within TRA and associated program areas. Using their experience and knowledge of big data, descriptive analytics, prescriptive analytics and AI techniques across multiple technology platforms and multiple data sources to solve complex problems. With minimal guidance from the Senior Manager, the Analyst will solve a variety of problems related to data analytics and is responsible for helping to assess the feasibility of proposed initiatives/ projects.

Issues involved are often unique in nature with limited precedence to be found within the ministry. The analyst will refer to GoA data and AI standards, guidelines, and templates and may rely on expertise of other subject matter experts as needed. The Analyst will also refer to industry collaboration sites, vendor services, and network connections in the industry as needed.

Direct or indirect impacts of decisions:

Decisions made by the Analyst will impact the scope, approach, complexity and feasibility of analytics projects and other initiatives executed by the divisions. The stakeholders affected will vary depending on the project/ initiative.

Key Relationships

Major stakeholders and purpose of interactions:

Ministry and Branch Management - provide analytical recommendations and expertise as needed to the Director; support divisional activities; participated in the prioritization of analytical projects and associated resourcing; identify opportunities for potential analytics projects and potential improvements to existing approaches, methods, etc.

Other divisional and ministry staff - Provide guidance and training; coordinate and collaborate on analytic projects; discuss pertinent data and analytics issues.

Required Education, Experience and Technical Competencies

Education Level

Bachelor's Degree (4 year)

Focus/Major

Other

2nd Major/Minor if applicable

Other

Designation

Other

If other, specify:

Business Administration, Statistics, Mathematics, Data Science, Engineering, or related field

Job-specific experience, technical competencies, certification and/or training:

The position requires a university degree in Business Administration, Engineering, Statistics, Mathematics, Computer Science or a related field. Minimum of four (4) years of experience:

- At least 1 year of experience as a data scientist
- At least 2 years of experience in data analytics
- At least 2 years of experience with predictive analytics, statistical techniques and developing data models

Related experience must include:

- Experience building business intelligence and mapping solutions (e.g., dynamic reports in Power BI, Tableau, or similar).
- Experience with relational data modeling (e.g., Oracle database, SSAS, or similar).
- Experience with analytical and extraction languages (e.g., SAS, SQL, DAX, R, Python) to write computer programs to extract and manipulate data.
- Experience creating executive-level presentations for the purpose of decision making.

Knowledge, Skills and Abilities:

- Knowledge of approaches/ methods for data analytics and data science (e.g., complex statistical modeling).
- Advanced data management methods, data mining, statistics, and optimization techniques, including network optimization.
- Understanding of various data structures and common methods in data transformation.
- Knowledge of advanced statistical techniques and concepts (regressions, properties of distribution, statistical tests and proper usage, etc) and experience with applications.
- Data processing and management including database and computer programming.
- Development of business intelligence reports and dashboards.
- Strong technical, analytic skills and experience with database building and extraction languages.
- Familiarity with FOIP.

Project Management is an important aspect of this position and will include developing, and communicating accurate project charters, plans, issues and concerns, risks, and other project information as needed. The Analyst has project management experience and education so they can translate business requirements into systems solutions and ensure deliverables relating to data management and data reporting projects are completed as planned.

Excellent interpersonal skills, relationship management and communication skills, including the ability to consult, and negotiate with TRA staff (subject matter experts and senior management), and communicate directions to drive innovation within an established organization.

Excellent written, verbal and listening skills, including ability to communicate effectively with individuals having varying degrees of expertise with business process design and improvement, deliver training and information sessions, and develop and present information to a variety of audiences. Demonstrated ability to work and communicate effectively at all levels of the organization and remain open to new perspectives, respond effectively to changing business requirements, and have a commitment to confidentiality, discretion, and diplomacy.

Behavioral Competencies

Pick 4-5 representative behavioral competencies and their level.

Competency	Level					Level Definition	Examples of how this level best represents the job
	A	B	C	D	E		
Systems Thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	Shapes APS goals with a view of entire network: <ul style="list-style-type: none">• Considers whole system and links; sets goals for long-term outcomes and	The Analyst will need to consider the whole system, take a broad perspective and evaluate impacts when

		broad perspectives <ul style="list-style-type: none"> • Evaluates short, medium, and long-term impacts to inform progress • Shapes organization to meet client needs; helps others see their role in this 	determining the best approaches, methodologies and solutions for analytical projects.
Creative Problem Solving	○ ○ ○ ● ○	Works in open teams to share ideas and process issues: <ul style="list-style-type: none"> • Uses wide range of techniques to break down problems • Allows others to think creatively and voice ideas • Brings the right people together to solve issues • Identifies new solutions for the organization 	The Analyst will need to take a creative and innovative approach to problem solving when assessing feasibility of and executing on analytics projects. Hypothesis testing requires innovative and creative approach to problem solving.
Agility	○ ○ ○ ● ○	Proactively incorporates change into processes: <ul style="list-style-type: none"> • Creates opportunities for improvement • Is aware of and adapts to changing priorities • Remains objective under pressure and supports others to manage their emotions • Proactively explains impact of change on roles, and integrates change in existing work • Readily adapts plans and practices 	The Analyst will need to adapt quickly to changing priorities and incorporate agile practices to ensure successful outcomes for analytics projects. The Analyst will also need to be respond well to change and support others through change.
Drive for Results	○ ○ ○ ● ○	Works to remove barriers to outcomes, sticking to principles: <ul style="list-style-type: none"> • Forecasts and proactively addresses project challenges • Removes barriers to collaboration and achievement of outcomes • Upholds principles and confronts problems directly • Considers complex factors and aligns solutions with broader organization mission 	The Analyst will need to proactively identify, address and help mitigate challenges for analytics projects while aligning solutions to broader GoA initiatives.