Assignment A

Business Analytics Technology Refresh (BATR)

Requirements Document

Chateau Noir (CN)
Clarice Sevier

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13 February 2023
Version 4.0

Revision History

Date	Version	Description of Change	Author
15 Jan 2023	1	Initial rough draft	Manu Malotra
25 Jan 2023	2	Refined second draft	Manu Malotra
1 Feb 2023	3	Further refined third draft	Manu Malotra
13 Feb 2023	4	Final draft	Manu Malotra

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1. INTRODUCTION

1.1 Purpose

The Chateau Noir Business Analytics Technology Refresh (BATR) is a project aimed at refining and upgrading the organization's technology, data collection, analysis, reporting, and website.

One of the purposes of the BATR is to help CN gather more data about its operations, analyze that data, and gather meaningful insights which can lead to data-driven decisions. This would lead to an efficiency improvement in numerous areas of the business, such as its operations, logistics, marketing, and wine-production. All this data will be gathered from numerous sources in the business, including the entire planting, grape-growing, and wine-producing process, the logistics and inventory data, and marketing data from the CN website.

The immense amounts of data that will be gathered will be fed into a business intelligence (BI) software (e.g., Microsoft Power BI or Tableau) for storage, analysis, reporting, and visualization. This process will help CN discover valuable insights about their business, help produce standardized and easy-to-digest reports for stakeholders, and will help to establish a company culture of data-driven decision-making.

Another purpose of the BATR is to upgrade the website for CN. Upgrading CN's rudimentary website will help CN market itself better to the rest of the world, reach more customers, and gather more data and feedback from customers; all of this would improve the organization's marketing and customer reach.

This BATR project will produce significant value and returns on investment for CN by gathering valuable data, discovering actionable insights, and driving more customers to the CN website. It will help CN achieve its long-term strategic goals, such as continuing to be a leading independent winery in Summerland, BC which produces high quality wines. Furthermore, this project will help propel CN into the age of data, and will secure CN's future amidst a dynamic world.

1.2 Scope

It is important to define the scope of the Business Analytics Technology Refresh for CN. The scope discusses what the project *is*, and what it *isn't*.

The scope of the BATR is to introduce a system that will aid Chateau Noir in capturing grape, wine, sales, and customer data that will allow it to make data-driven decisions to increase sales and produce the best wine for their customers, thereby helping it become a more competitive winery and offset the rising costs of operation. The BATR does not mean completely overhauling every aspect of the business, but rather, refining it and making some adjustments which will make it more competitive.

What the BATR *IS*:

- A project to introduce more data collection at various points of Chateau Noir's operations to have data which can be analyzed to make data-driven decisions.
- Integrate a business intelligence (BI) tool into CN to analyze and visualize data, as well as create reports for management and employees. This will help to achieve the goal of developing a culture of data-driven decision-making in CN.
- Update CN's rudimentary website to reach more customers, especially those who don't live close to CN, but would still like to learn more about the organization which produces their wine. The website could also be used to acquire feedback from users, which would provide more data for analysis and actionable insights.

What the BATR *IS NOT*:

- Tracking as many metrics as possible. This would be a mistake, as CN would be collecting extra data unnecessarily which might not contribute to actionable data-driven insights. Therefore, it will be important to target the data collection at very specific points in the operations and processes of the organization, to make sure that the most useful data is being collected.
- Changing the target customers or target market. The current marketing strategy is working well for CN, so CN should continue with it.
- Implementing more technologies than are necessary to obtain, process, interpret, and visualize the data that CN needs to make effective data-driven decisions. This is not a complete technology overhaul of the organization. Rather, the BATR aims to refine and introduce specific technologies and processes at specific points in CN's operations to help the management to make data-driven decisions.

1.3 References

Assignment, Assignment A Case Study document

Research about Summerland, BC: https://en.wikipedia.org/wiki/Summerland,_British_Columbia

Project Manager salary data:

Webpage, https://ca.talent.com/salary?job=project+manager

Webpage, https://www.jobbank.gc.ca/marketreport/wages-occupation/24311/ca

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Business Analyst salary data:

Webpage, https://ca.talent.com/salary?job=business+analyst

Webpage, https://www.jobbank.gc.ca/marketreport/wages-occupation/15984/39070?source=6

Webpage, https://www.glassdoor.ca/Salaries/business-analyst-salary-SRCH_KO0,16.htm

Data Analyst salary data:

Webpage, https://ca.talent.com/salary?job=data+analyst

Webpage, https://www.jobbank.gc.ca/marketreport/wages-occupation/17882/ca

Webpage, https://www.glassdoor.ca/Salaries/data-analyst-salary-SRCH_KO0,12.htm

Software Developer salary data:

Webpage, https://ca.talent.com/salary?job=software+developer

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Tester salary data:

Webpage, https://ca.talent.com/salary?job=tester

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Webpage, https://www.glassdoor.ca/Salaries/qa-tester-salary-SRCH_KO0,9.htm

BI Software research:

Website, https://powerbi.microsoft.com/en-ca/

Website, https://www.tableau.com/

Website, https://aws.amazon.com/quicksight/

Article, https://www.scnsoft.com/blog/power-bi-pros-cons

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Article, https://www.sam-solutions.com/blog/tableau-software-review-pros-and-cons-of-a-bi-solution-for-data-visualization/

Article, https://www.knowledgehut.com/blog/business-intelligence-and-visualization/tableau-advantages-disadvantages

Article, https://acloudguru.com/blog/engineering/amazon-quicksight-how-to-put-eyes-on-your-data-with-this-aws-bi-tool

Article, https://www.integrate.io/blog/amazon-quicksight-overview-and-review/

1.4 Document Overview

1. Introduction – Read this section if you need a high-level overview of the purpose and objectives of the BATR. It introduces what the BATR project is, what its goals and scope are, references that were used to write this report, and abbreviations/acronyms that have commonly been used in this document.
    a. Purpose
    b. Scope
    c. References
    d. Document Overview
    e. Abbreviations and Acronyms
2. Organization – Read this section if you need more detailed information about the project (e.g., if you are a project manager). This section goes more in depth into a description of the status of the organization and its operations, the strategic vision of Chateau Noir for the future, and strategic objectives to achieve that strategic vision.
    a. Description – Discusses target market, CN location, and SWOT analysis
    b. Strategic Vision – Vision for the future
    c. Strategic Objectives and Initiatives – Objectives to achieve the strategic vision
3. Business Analytics Technology Refresh (BATR) – More discussion specifically about the BATR project, its stakeholders, deliverables, and requirements.
    a. Project Background – The Project Background sub-section is useful if you need to understand who the key stakeholders are, how CN operations are run at the moment, how they could look in the future, and if you need to an evaluation of different BI software (with their advantages and disadvantages).
        i. Stakeholder Profiles
        ii. Stakeholder Environment
        iii. Software and Alternatives
    b. Project Mandate – The Project Mandate discusses key deliverables, assumptions and constraints of the project, business requirements, and data quality requirements. This section is useful to data analysts and project managers.
        i. Key Deliverables
        ii. Assumptions
        iii. Constraints
        iv. Business Requirements
        v. Data Quality Requirements
4. Schedule and Budget – This section discusses the financial, time, and planning details of the BATR project, including the timeline, staffing roles and costs, and budget. Read this section if you want to know the estimated time and costs of the project, if you are a project manager, financial planner, or accountant.
    a. Timeline (Schedule)
    b. Staffing Roles
    c. Budget
5. Academic Process Review – This section discusses the approach that was used to write this paper, as well as a self-reflection on my process.
    a. Overall Approach
    b. Self-Reflection

1.5 Abbreviations and Acronyms

Abbreviation or Acronym	Description
CN	Chateau Noir
BATR	Business Analytics Technology Refresh
BI	Business Intelligence
BC	British Columbia

2. ORGANIZATION

2.1 Description

- Chateau Noir is a mid-sized winery located on a plateau in Summerland, BC. It was founded in the 1900s, when the wine-making industry was growing in BC, and numerous wineries were opening. CN has firmly established itself as a prominent winery in the region. The organization currently has 120 employees.
- Due to their location, they enjoy an ideal climate for producing superb grapes, which they use to make wine.
- CN has developed a growing customer base due to their unique and imaginative marketing strategies, such as associating a striking and unique word to each type of wine, with each word vividly evoking an emotion (e.g., charming, passionate, scandalous, wild, flirtatious).
- CN maintains its headquarters and wine-making operations in Summerland. When the wine is ready, it is shipped out to various retail partners who sell it.
- CN used to use paper-based records to track all aspects of their wine-making operations; however, this method had severe limitations, which are becoming ever-visible. The organization did introduce computer-based record-keeping for plant data, which helped generate some data for analysis and insights. However, enough data is not being gathered, and the reports generated are not standardized, so integrating a BI tool into the business would be an important step in improving this situation.
- The number of current CN customers is estimated to be around 100,000.
- SWOT analysis
    - Strengths
        - Unique marketing strategy: CN associates emotionally evocative words like “charming”, “scandalous”, and “flirtatious” with their wine varieties, which makes the wine purchase and consumption decision a more fun and engaging experience for customers.
        - Passionate and loyal customer base: CN’s unique marketing sets them apart from other wines, and this has led to a loyal and growing customer base which likes their wines and the adjectives associated with them.
        - Location and good climate for wine-production: CN is located in Summerland, BC, a region which consistently experiences pleasant temperatures which are ideal for wine production.
    - Weaknesses
        - Data gathering: CN currently does not gather enough data about its operations. The organization has taken a step in the right direction by implementing a computer-based plant management system, but more can be done to achieve the vision of gathering and analyzing lots of data and establishing a culture of data-driven decision-making.
        - Record keeping: CN has lots of paper-based records from the time before they implemented the computer-based plant management system. Furthermore, numerous areas of the business are still tracked on paper, such as marketing, retail, and customer services data.
        - Website: CN currently has a rudimentary website which does not follow best practices for user-experience and user-interface. A more engaging, up-to-date website can help to increase customer engagement.

- Opportunities
  - Website improvement: Updating the websites UI and UX can help to reach more customers, especially those who do not live close to CN, but would still like to learn more about the organization and potentially order wine directly from CN.
  - Data-driven decisions: Actionable insights from data-collection will improve numerous aspects of the business, from grape quality and yields, better wine, increase in customer experience and loyalty, and more environmentally sustainable practices.
- Threats
  - Increasing competition as other wineries in the region switch to data-driven approaches.
  - Climate change can disrupt CN's wine production process due to increasingly uncertain growing conditions. This could hinder CN's goal of producing the highest quality, most fine-tuned wine.

2.2 Strategic Vision

Mission statement: Chateau Noir winery contributes to the wine-making culture of BC and to the wine scene of the world by producing the highest quality wines in the heart of BC, uses creative marketing to "celebrate the scandalous side of life" (Clarice Sevier), and aims to use the most up-to-date techniques in data gathering to make data-driven decisions to improve the experience for all stakeholders.

Strategies: CN seeks to continuously refine and improve their grape-quality and wine-production for their customers. To continue to do this successfully, CN must gather numerous data points from different sources, which it can then analyze to improve wine quality, cater more effectively to its customer base, and become more competitive.

Goals:

- Create a culture of data-driven decision-making at all levels in the organization; every employee should have the skills and desire to make decisions based on data.
- Become more flexible and adaptive to a dynamic world which could change rapidly (e.g. sudden pandemic which resulted in remote work, warming climate).
- Establish deeper connections with CN's customers to create a loyal customer-base, which will stick with CN through whatever hardships might be encountered in the future.

3-Year Vision:

- Implement the BATR to make CN a more data-driven organization.
- Establish a culture of data-driven decision-making in all employees and across all levels and areas of the Chateau Noir organization.

5-Year Vision:

- Take steps towards sustainable operations, and as a result, take advantage of government incentives for environmentally-friendly practices

10-Year Vision:

- Become at least a carbon-neutral, and perhaps even a carbon-negative organization which is an inspiring model for what a winery can do when it combines sustainable practices and data-driven decision-making.

2.3 Strategic Objectives and Initiatives

Objective	Description
Data-driven decisions	Use data to make better, more informed decisions. Establish a culture of data-driven decision-making in CN's employees at all levels of the business and areas of operation. This will be implemented by gathering more valuable data from numerous areas in the organization. Then, that data will be stored, processed, analyzed, reported, and visualized through the use of BI software. Contribution to strategic vision: Creating data-driven culture, becoming more environmentally sustainable, adaptable in a dynamic world, and securing a loyal customer base.
Increase sales	Increase sales volume and pricing to generate more revenue and offset the steadily increasing costs of managing the wine-making process. The increased revenue will give CN more adaptability and flexibility in its operations. Contribution to strategic vision: Becoming more adaptable in a dynamic world.
Improve customer reach and customer experience	Update the CN website to reach more customers, obtain feedback from them, and improve the customer experience. Contribution to strategic vision: Securing a loyal customer base.

3. BUSINESS ANALYTICS TECHNOLOGY REFRESH

3.1 Project Background

The BATR project seeks to increase CN's competitiveness among other wineries by updating its data-collection techniques, integrating a BI tool to analyse, visualise, and report the collected data, and make more robust, well-informed and data-driven decisions to improve the quality of its grapes, wines, and operations.

3.1.1 Stakeholder Profiles

Stakeholder Name	Description	Critical Success Factors
Clarice Sevier	Owner and General Manager	• A system to gather more useful data, interpret that data, and make data-driven decisions to lead the organization forwards.
Jan Knop	Sales Manager	• The integration of BI software to create easy-to-understand sales reporting spreadsheets with data visualization. • Introduction of computer-based inventory and sales system for more efficient and accurate tracking of inventory and sales.
Stewart Burns	Operations Manager	• Integration of BI software to create detailed reports about CN's plants for internal and external stakeholders.
Shuang Chen	Customer Services Manager	• A system to get customers' thoughts and feedback about CN's secondary products like tours, tastings, and events, so that CN can be more proactive in its offerings and create a more personalized experience for customers. An updated website with a feedback section could meet this need in an efficient way.
CN's customers	The individuals who purchase CN's goods and services	• High quality wine, personalized service, special discounts, and purchase recommendations that are predicted from past data which has been recorded and processed.

3.1.2 Stakeholder Environment

<u>Employees</u>

CN has a total of 120 employees. Out of CN's 120 employees, 95 choose to work at their physical headquarters and fields in Summerland, BC; 15 employees split their work, working at the headquarters half of the time, and working at home half of the time; 10 employees work fully remotely.

Summerland, BC is located close to Kelowna, a small town nestled in the Columbia Mountains in British Columbia. It is connected to the rest of the world with roads and with flights.

Customers

CN's customers are mainly located in BC and Alberta's population centers (Vancouver, Kelowna, Victoria, Edmonton, Calgary). To obtain CN's products, our customers either walk or drive to CN's retail partners (liquor stores), and purchase their wine. During their purchase, they put consideration into the marketing and the emotionally evocative adjectives associated with the wine they are purchasing, depending on the occasion for which they are purchasing the wine.

Technology

CN mainly uses Windows computers at their headquarters. After some investigation, it was found that all the employees who work remotely also use Windows computers. This consistency is good because it will allow everybody to use the same software and avoid any compatibility issues.

Currently, CN uses a computer-based plant management system that was recently adopted. However, it is not enough; the vision is for CN to gather massive quantities of data about numerous areas of their operations: field planting, watering, fertilization, harvesting, marketing, retail, customer services, etc.

Software Application Integration

A BI tool will need to be integrated into the data gathering and business operations of CN in order to store, analyze, report, and visualize the gathered data to generate robust insights and create a culture of data-driven decision-making at all levels of CN.

3.1.3 Software and Alternatives

Name of Software	Advantages	Disadvantages
Microsoft Power BI	• Made by Microsoft, which is a reputable software company with extensive customer support. • Relatively affordable • Integration with other Microsoft tools, such as Power Apps, Power Automate, Power Virtual Agents, and Microsoft Office tools such as Excel. • Will run well on the Windows computers that CN extensively uses.	• Can have heavy computer system requirements to run smoothly. • Hard to work with non-Microsoft tools. • Compatibility issues for Mac, which may cause problems for remote employees (if they are using a Mac). • There is a learning curve to this software. • Additional tools required to conduct more advanced analytics, such as Power Pivot and Power Query. This would

		add additional complexity, cost, and learning curve. • Limited file size for data sets.
Tableau	• Ease of use, friendly user interface. • Able to handle large amounts of data. • Ability to incorporate scripting languages like Python and R, which is relevant to power users.	• No option to schedule data refresh, requires manual work. • Limited custom formatting. • High cost and inflexible pricing.
Amazon QuickSight	• Able to integrate and gather data from both local devices (e.g., plant-trackers and bar-codes), and cloud-based data sources (e.g., website data from Google Analytics). • Easy to setup and begin using quickly. • Beginner friendly, no coding knowledge or steep learning curve. • Pay-per-usage allows you to pay for only the amount that you use the software, hence avoiding heavy upfront purchase and subscription costs.	• Limited customizability and visualization options. • Functionality and security issues due to limited support, and since it is still a new software on the scene.

3.2 Project Mandate

3.2.1 Key Deliverables

Deliverable	Description
Obtain and set up data-gathering systems and processes at key steps in CN's processes	CN must integrate some systems and data-gathering devices into the key stages of their operations (such as grape and wine production, marketing, sales, and inventory) to gather valuable data which can be analyzed and reported. Data collection is needed so that there is data to analyze and draw insights, which will needed to help CN achieve its goals and visions.
A BI software to analyze data and generate reports and visuals about that data.	This BI software will allow the organization to make more data-driven decisions by allowing

	users at all levels to analyze data and generate reports and visuals on that data. The ease of use, standardization, and customizability of the BI software will help to introduce a culture of data-driven decision-making into the organization.
Updated website	The updated website will be used to market CN better to the rest of the world, increase customer reach, and improve customer experience. Improving the website will also help CN gather data through Google Analytics, which will contribute valuable insights about customer preferences and feedback.

3.2.2 Assumptions

- Reliable supply of electricity and internet connection to CN's stores and databases.
- Reliable supply of water, applications, and other materials needed for CN to successfully continue and expand their wine-making operations.
- The continued support of the business intelligence software by the parent company (e.g., Microsoft must continue to support, update, and offer customer service for Power BI).
- Continued local government incentives to convert tree-fruit orchards into vineyards that consume less water.

3.2.3 Constraints

- The BATR data collection practices must abide by data and privacy protection legislation.
- The project must align with the values and mission statement of CN, including its commitments to the community, employees, customers, environment, and quality of products.
- Project timeframe preference: The BATR should be delivered within a reasonable timeframe so as to ensure that all prior research and action steps are up to date when the system is implemented.
- Project budget preference: The BATR project should be completed within the specified budget.

3.2.4 Business Requirements

Requirement ID	1
Requirement Name	Data Gathering
Requirement Description	Increase collection of data in CN's wine-making and business operations. This data will then be fed into a BI tool, analyzed, reported, and visualized to make well-informed, data-driven

	decisions. This will help CN to establish a culture of data-driven decision making across the organization.
Data sources	• Data tracking devices to track plant health, fields, applications, and farming devices. • Bar-codes on wine bottles and containers to track inventory. • Google Analytics data from website to track marketing and customer reach.
Business metrics or Key Performance Indicators (KPIs)	• Number of data sources • Number of data points being gathered • Percentage of data that was used to get some insight (will help identify which data is being gathered unnecessarily, but not being used, and not contributing to data-driven decisions).
Business processes	• Grape-growth and wine-making operations • Inventory tracking and logistics • Marketing and website
List business stakeholders involved and describe type of involvement	• Jan Knop (Sales Manager) – Will use data to generate sales reports and visualizations. • Stewart Burns (Operations Manager) – Will use data to provide detailed reports to internal and external stakeholders.
List subject matter experts (SME)	• Whichever company will produce the data-collection devices that will be used to gather data about plants will be the SME for that area. • The BI company's support team will be the SME for the BI software that CN decides to use. • Google will be the SME for Google Analytics for website data.

Requirement ID	2
Requirement Name	Data Reporting and Visualization
Requirement Description	A BI tool will be set up and introduced into the organization to store, analyze, report, and visualize the data that is gathered.
Data sources	• Data tracking devices to track plant health, fields, applications, and farming devices. • Bar-codes on wine bottles and containers to track inventory. • Google Analytics data from website to track marketing and customer reach.
Business metrics or Key Performance Indicators (KPIs)	• Plant health metrics (rate of plant growth, number of berries, flavor of berries). • Inventory level • Website traffic, customer reach
Business processes	• Grape-growing and wine-making operations • Inventory tracking and logistics • Marketing
List business stakeholders involved and describe type of involvement	• Clarice Sevier (Owner and General Manager) – Information Consumer • Jan Knop (Sales Manager) – Information Consumer - Will experience great benefit from the BI tool's reporting and visualization capabilities.

	• Stewart Burns (Operations Manager) – Information Consumer – Will experience great benefits from the BI tool's reporting capabilities, and will be able to provide comprehensive reports to internal and external stakeholders.
List subject matter experts (SME)	BI software support team – As we implement the BI software, the company which produces, maintains, and provides support for the BI software (e.g., Microsoft for Power BI, Salesforce for Tableau, or Amazon for QuickSight).

Requirement ID	3
Requirement Name	Website Update
Requirement Description	CN's website will be updated to better showcase the organization and its offerings to current and potential customers.
Data sources	• Data gathered from Google Analytics and BI reports and visualizations will contribute to website design to generate the most traffic and increase conversions.
Business metrics or Key Performance Indicators (KPIs)	• Number of website visits • Number of conversions • Percentage of website visitors who are being converted
Business processes	• The marketing of CN will be improved with an updated website, because the website will allow CN to advertise itself better and will allow customers to learn more about CN. The website will also gather data about website traffic and engagement through Google Analytics.
List business stakeholders involved and describe type of involvement	Shuang Chen (Customer Services Manager) – Information Consumer – Will be able to use insights from website to get feedback from customers about CN's secondary products.
List subject matter experts (SME)	• Shuang Chen (Customer Services Manager) • Website Development Project Manager • Google Analytics support team – The team at Google that runs Google Analytics are the experts in the use of Google Analytics for websites. They could be consulted for assistance or information.

3.2.5 Data Quality Requirements

The sources of data for the BI software will be the data collected about each plant and its associated metrics, marketing data from Google Analytics, inventory data that is tracked with barcodes on each bottle of wine, and sales data provided by CN's retail partners.

Timeliness: Data timeliness is important to ensure an up-to-date picture of the status and metrics of CN operations, such as plant health and inventory count. To ensure timeliness, it is advisable to automate the process from the data being collected, to being transferred to the BI software, and that data being processed into the reports, metrics, and visualizations that will help CN make data-based decisions.

Accuracy: The data needs to be accurate for CN to have confidence in it and take effective actions based on the data. The introduction of a computer-based plant management system was a step in the right direction, as it allowed for more accurate and up to date data on the status of each plant. Automating the transfer and processing of data from collection to storage to BI software to the final reports and visualizations would also create greater accuracy by reducing the potential for human error.

4. SCHEDULE AND BUDGET

4.1 Timeline (Schedule)

Phase	Task	Duration	Role Responsible
Planning	Meeting between Clarice Sevier and business analysts to discuss ideas about the business analytics technology refresh project that Clarice has in mind for CN.	5 days	Business Analyst Project Manager Clarice Sevier (Owner and General Manager)
	Develop project plan.	10 days	Business Analyst Project Manager
Analysis	Requirements Document Complete	60 days	Business Analyst
	Requirements Document Approved	1 days	Project Manager
Design	ERD Diagram Complete	20 days	Data Analyst
	ERD Diagram Approved	1 days	Project Manager
Development	Purchase and set up BI software	10 days	Database Administrator, Software Developer, Business Analyst
	Update CN website	20	Software Developer, Security Analyst
Testing	User Acceptance Testing	45 days	Tester
	Penetration testing and vulnerability analysis to ensure security of electronic data	30 days	Tester
Implementation	Distribute business analytics dashboard setup to the stakeholders who will use it	5 days	Business Analyst, Project Manager, Data Analyst
	Launch updated website	5 days	Software Developer
Maintenance	Monitor status of data collection devices, BI tool, and flow of data into BI software.	30 days	Systems Analyst, Data Analyst
	Fix glitches or bugs that may arise in data collection or BI system.	30 days	Software Developer, Data Analyst

4.2 Project Staffing Roles

Resource	Description/Purpose	Hourly Rate
Project Manager	Organises, plans, and executes projects while working with constraints such as budget and time.	$42
Business Analyst	Studies the market, the company's products, its systems, and its data to identify problems and find solutions that meet the company's needs.	$40
Data Analyst	Identifies, collects, organises, analyses, and interprets data collected by the business.	$38

Software Developer / Engineer	Develops & tests software, upgrades the software, and monitors its performance	$43
Tester	Tests software for bugs, defects, errors, and any other problems that the end user might experience.	$34

4.3 Project Budget

Staffing Cost Sheet

Role	Qty	Hourly Rate	Total Hours	Total Cost
Project Manager	3	42	136	$17,136
Business Analyst	6	40	240	$57,600
Data Analyst	4	38	680	$103,360
Software Developer	4	43	520	$89,440
Tester	4	34	600	$81,600
Total	21		896	$349,136

Software Cost Sheet

Qty	Product Name	Description/Purpose	Unit Cost	Total Cost
10	Microsoft Power BI	A versatile business intelligence software that has great support, and will integrate easily with the Windows computers already in use by CN.	$28 per user per month	$3,360 per year

5. Academic Process Review

5.1 Overall Approach

To complete these requirements, I read through the case study multiple times and made my own notes about the facts that were stated. For the parts in the requirements document in which we needed to use our own creativity (because the relevant information was not provided), I imagined how a a medium-sized independent winery would be run in the present day (e.g., proportion of employees working at the location, the devices they own, etc.), and read some articles about wineries in BC. Obviously, I had to make assumptions about things for which information was not provided, and for things which one would expect to be true (e.g., CN is in good enough financial health to execute on the steps described in the BATR). I tried to draw concepts we learned from our lectures when considering things such as how long a project would take or how it could be executed. I did not discuss this assignment with anybody else in class. Bringing together all this information from different sources and my own creativity, I proceeded to write the BATR document.

5.2 Self-Reflection

- I feel I meet the assignment objectives to a good extent. I went through each point in the rubric and tried to thoroughly meet the requirements for an “Outstanding” score in each section.
- I feel my approach regarding research was effective to help me complete the assignment successfully. Reading the case study multiple times, taking notes, and filling in the gaps using my creativity and research were all effective in bringing together a realistic BATR document that I can see being implemented.
- In the future, I would aim to begin thinking about the assignment and working on it earlier. This would give me more time to come up with more ideas, do more research, ask more questions, write, and develop my ideas more extensively.
- Through the process of writing this requirements document, I have come to understand how businesses plan out their decisions. It is an applicable and important skill to be able to identify objectives, constraints, costs, steps, stakeholders, and the numerous other factors that go into implementing a project successfully for a business.