Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	15 October 2022
Team ID	PNT2022TMID40543
Project Name	Retail Store Stock Inventory Analytics
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2
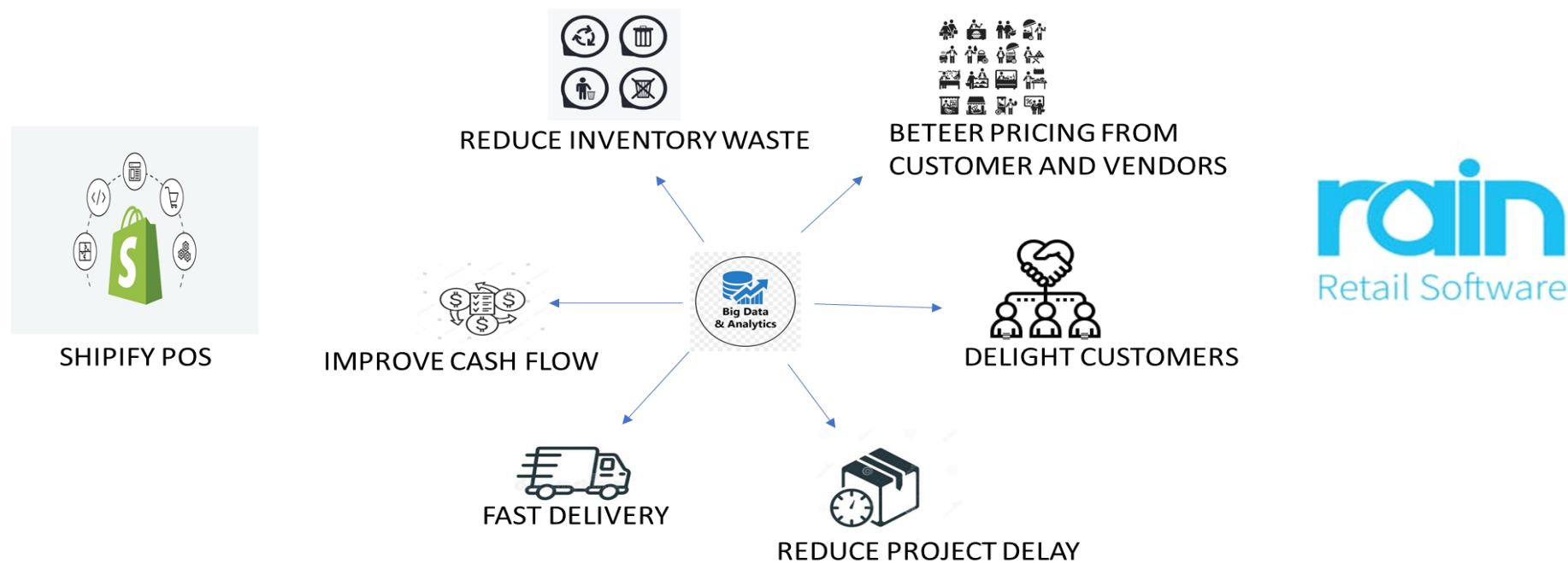
Example: RETAIL STORE STOCK INVENTORY ANALYTICS

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Data analytics	A data analyst reviews data to identify key insights into a business's customers and ways the data can be used to solve problems. They also communicate this information to company leadership and other stakeholders.	Data analytics (DA) is the process of examining data sets in order to find trends and draw conclusions about the information they contain. Increasingly, data analytics is done with the aid of specialized systems and software.
2.	Improve cash flow	Ways to increase cash flow for a business include offering discounts for early payments, leasing not buying, improving inventory, conducting consumer credit checks, and using high-interest savings accounts.	Cash flow is one of the most vital metrics to keep an eye on. Cash lets you settle with your suppliers, meet payroll and grow.
3.	Reduce inventory waste	Order smaller batches of raw materials or ready-to-sell items. Get transparent with customers about your available and remaining inventory.	AI and machine learning can be used to identify patterns and draw important data to make forecasts.
4.	Delight customers	Customer delight is surprising a customer by exceeding their expectations and thus creating a positive emotional reaction. This emotional reaction leads to word of mouth.	i)Provide a mobile platform to users. ii)Using big data to gain some insights into your customer.
5.	Fast delivery	Fast shipping leads to higher conversion rates. Sixty-eight percent of consumers say fast shipping leads them to place an online order.	i) Real-Time Data Can be Used to Improve Processes. ii) Integration Connects all eCommerce Platforms Together
6.	Reduce project delay	A project delay is typically an issue that can take companies over budget, cause them to miss deadlines, and sometimes derail projects. Its impact on costs and timings can be significant, so project managers must pay special attention to its occurrence.	i)Set realistic goals for your projects. ii) Hold a team meeting

7.	Better Pricing from Customers & Vendors	A pricing strategy is a model or method used to establish the best price for a product or service. It helps you choose prices to maximize profits and shareholder value while considering consumer and market demand.	i)Price skimming. ii)Market penetration pricing. iii)Premium pricing. iv)Economy pricing. v)Bundle pricing. iv)Value-based pricing
8.	Shopify	Shopify is a complete commerce platform that lets you start, grow, and manage a business. Our expertise and leadership in commerce comes from the experiences of millions of merchants on our platform.	Liquid is a coding language template that was created by Shopify. It is also written in Ruby, an open source programming language. Liquid is finally available as an open source project on GitHub.
9.	Rain Retail Software	Everything you need to sell online and in-store rain retail pos logo icon Easy-to-use retail POS system rain retail pos logo icon Integrated eCommerce website rain retail pos logo icon Automated marketing tools.	Rain is a cloud-based retail point-of-sale and website system.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	A data analytics stack enables all of the teams across your organization to look at important metrics and make data-driven decisions. It integrates different technologies needed to efficiently collect, store, transform, and analyze your data and to derive critical insights from it.	i) Streamline store operations ii) Gather valuable data
2.	Security Implementations	The security analytics monitor the unusual behaviour of employees. Thus it helps to detect an insider threat or a malicious account. It can also detect suspicious patterns by correlating malicious activities. An example of one such renowned security analytics use case is UEBA.	Firewalls,authentication and authorization,Encryption, data masking,hardware-based security, data backup and resilienc,data erasure.
3.	Scalable Architecture	Scalable Big Data Architecture covers real-world, concrete industry use cases that leverage complex distributed applications , which involve web applications, RESTful API, and high throughput of large amount of data stored in highly scalable No-SQL data stores such as Couchbase and Elasticsearch.	i)Start With Scalable Databases. ii)Avoid Storage. iii)Build Stateless Applications. iv)Use Asynchronous Communication. v)Queue Automation Tasks. vi)Use Read Replicas. vii)Reduce Write Requests. viii)Scale Your Servers Appropriately.
4.	Availability	Data availability is a term used by computer storage manufacturers and storage service providers to describe how data should be available at a required level of performance in situations ranging from normal through disastrous.	Artificial intelligence (AI), machine learning (ML) and natural language processing (NLP)
5.	Performance	High performance data analytics is the process of quickly examining extremely large data sets to find insights	