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

Date	03 October 2023
Team ID	NM2023TMID08400
Project Name	Aquatic Insights: Cognos -Powered Water Portability Analysis
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: Order processing during pandemics for offline mode

Reference:

https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.mdpi.com%2F2227-7099%2F11%2F8%2F218&psig=AOvVaw2fw0vPWNkXZjt2Jq4C5MMa&ust=1699373317117000&source=images&cd=vfe&opi=89978449&ved=0CBIQjRxqFwoTCljDmoXhr4IDFQAAAAAdAAAAABAE

Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

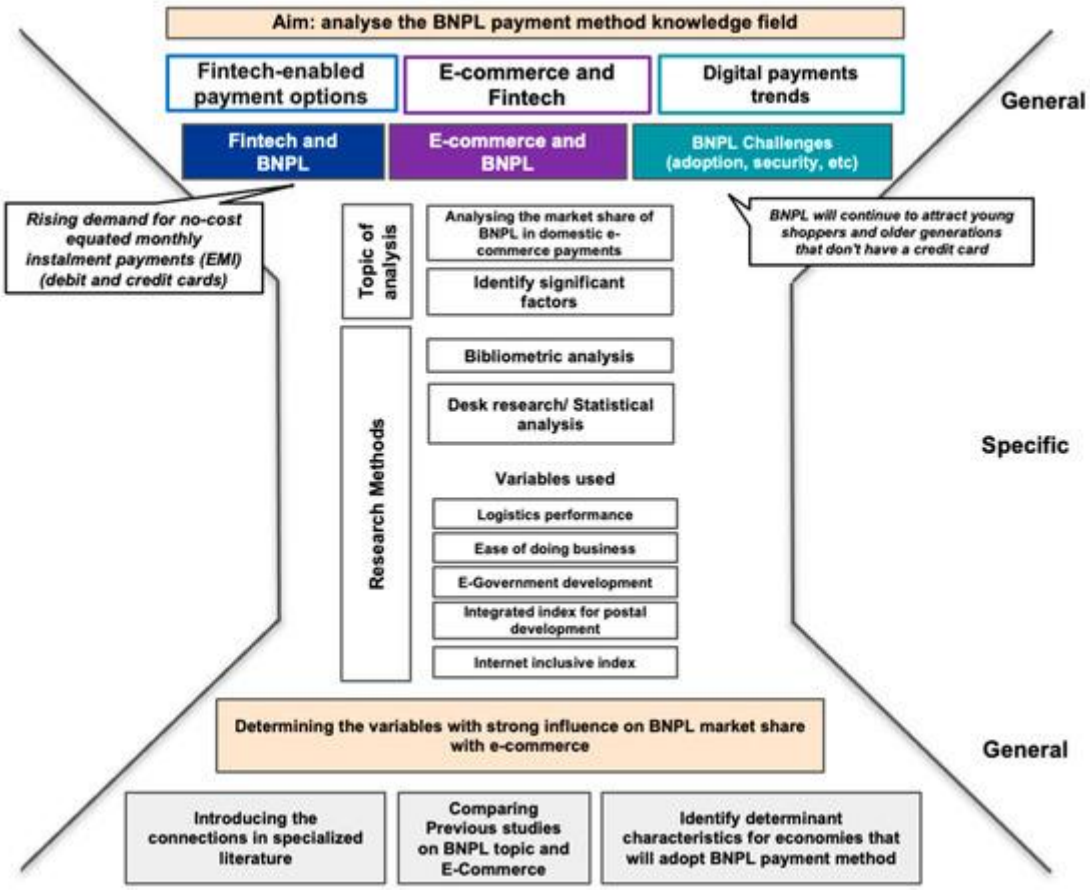
Aim: analyse the BNPL payment method knowledge field
Fintech-enabled payment options
E-commerce and Fintech
Digital payments trends
General
Fintech and BNPL
E-commerce and BNPL
BNPL Challenges (adoption, security, etc)
Rising demand for no-cost equated monthly instalment payments (EMI) (debit and credit cards)
BNPL will continue to attract young shoppers and older generations that don't have a credit card
Topic of analysis
Analysing the market share of BNPL in domestic e-commerce payments
Identify significant factors
Research Methods
Bibliometric analysis
Desk research/ Statistical analysis
Specific
Variables used
Logistics performance
Ease of doing business
E-Government development
Integrated index for postal development
Internet inclusive index
Determining the variables with strong influence on BNPL market share with e-commerce
General
Introducing the connections in specialized literature
Comparing Previous studies on BNPL topic and E-Commerce
Identify determinant characteristics for economies that will adopt BNPL payment method

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.

3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
S.No	**Characteristics**	**Description**	**Technology**
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	NumPy, Pandas, scikit-learn
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Tableau, Power BI

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d