

Capstone project 1- part 1

Q 1. BPM

A business process has a goal, has specific inputs and outputs, user resource, activities that are performed in some order and value for the customer.

- 1. Goal** – Support purpose
- 2. Input** – Seeds, pesticides and fertilizers, address, payment mode.
- 3. Output** - order conformation, notification (SMS, Emails), order id, tracking id.
- 4. User resource** – web/mobile application, internet, sever, logistics, payment gateway.
- 5. Activities** – login, select products, add to cart, place order, order status.
- 6. Value for the customer** – farmers can buy required products from anywhere to doorstep.

Q 2. SWOT Analysis

SWOT stands for strengths, weaknesses, opportunities and threats. Swot analysis is a tool used to understand a company or project situation by looking at SWOT.

Strengths

User friendly platform
Mobile and web access
Direct manufactures to farmer
Mr. henrys vision

Weaknesses

Network issues
No awareness about application
logistics service not available at
some areas

Opportunities

Growing digital
Government support to develop
agritech
Farmer needs

Threats

Payments frauds
Fake products
Delay in delivery's

Q 3. Feasibility Study

Feasibility study is but possibility of doing a project with some constraints like technology, time and budget.

1. Technology

Frontend – java
Backend – ReactJS/ Angular
Database – MySQL
API's – RESTful APIs
Cloud – AWS or Azure app service

2. Hardware

I5/i7 processor 16GB RAM, SSD storage
Android mobile for testing
Broadband/internet

3. Trained resource

Project Manager, sr java developer, java developer,
Database admin, testers and business analyst.

4. Budget and Time frame

Allocated time for the project 18 months
Total budget 2cr for whole project

Q 4. GAP Analysis

Gap analysis is the process of comparing the AS-IS and TO-BE then figuring out how to close the gap.

AS-IS

Farmers need to travel to Towns to buy products

Farmers have limited options In local shops

No direct interaction with manufactures

Manual platform, No records

Takes time check all the. available stock in shops

Self-managed

Difficult to track govt subsidy

TO-BE

Farmers can buy any products from home

Farmers can have multiple options from multiple vendors

Direct interaction with manufactures

Digital platform, all orders are saved

Direct update about available stock

Integrated with delivery tracking and support

Integrated with subsidy schemes and Agri policies

Q 5. RISK Analysis

Risk can be an event which can slow down the progress of the Project and sometimes cause a failure.

1. Business Analyst (BA) Risks

Farmers cannot explain their needs clearly due to lack of tech understanding.

Stakeholders may speak different regional languages.

Delay or incomplete feedback from stakeholders.

Business analyst is unfamiliar with agriculture sector and needs.

Frequent requirement changes may not easily be understood by stakeholders.

If documents are not properly BA may be in risk.

2. Process / Project Risks

Farmers in rural areas may lack of stable internet access.

Rural users may find it difficult to use app/web application.

Delivery to some remote locations may be costly or delivery not available.

Payment processors, delivery services

Risk of unauthorized access to manufacturer data

Poor response to farmers queries or technical problems can break the trust.

Logistics or e-commerce risk in some locations

Return the product or expiry of the product risk

Some farmers does not know to use the products properly that may cause negative impact of the product.

Some of them wont trust online platforms.

3. Internal risk

Uncontrolled changes or continuous growth in project scope.

Poor planning, unrealistic timelines, or weak coordination.

Team members may leave, be reassigned, or fall sick.

4 External risk

Farmers may face connectivity issues.

Remote locations may be hard to reach, affecting delivery.

Farmers may distrust online payments or fear about scams.

Q 6. RACI Matrix

Stakeholder analysis is process of finding out who is involved in the project and what they do. By using RACI Matrix

	Name of the employee	Designation
Responsible	Mr.Pandu Mr. Karthik Ms. Juhi Mr.Teyson, Ms.Lucie, Mr.Tucker, Mr. Bravo	Finance head Delivery head Sr java developer Java developers
Accountable	Mr. Henry Mr. Vandanam BA Mr. Karthik	Sponsor Project manager Business analyst Delivery Head
Consulted	Mr.Dooku Mr.Mike Mr Jason and Ms.Alekya	Project coordinator Network admin Testers
Informed	Mr.Henry Peter, Kevin and Ben Mr. Karthik	Sponsor Client Head

Who are the influencers.?

Peter, Kevin and Ben – Real users sharing practical inputs
Mr.Dooku – project coordinator

Q 7. Business case document

Business case document is a plan that explain why a project or idea should be done.

- Why is this project initiated.?

This business case proposes the development of an Online Agriculture Product Store to enable farmers in remote areas to easily access fertilizers, seeds, and pesticides. The platform will digitally connect manufacturers with farmers, helping bridge supply chain gaps and improving agricultural productivity. The project will be executed by APT IT SOLUTIONS under SOONY's CSR initiative, with a budget of ₹2 Crores and a timeframe of 18 months.

- What are the current problems.?

Farmers face difficulty accessing fertilizers, seeds, and pesticides.
Dependence on middlemen.
No digital platform to connect manufacturers directly with farmers.

- With this project, how many problems are solved.?

Develop a user-friendly web and mobile application.
Farmers browse, compare, and order products online.
Allows manufacturers to list products (fertilizers, seeds, pesticides).
Provides order tracking, delivery, and payment features.

- What are the resources required.?

Human Resources
Technical Resources (Hardware & Software)
Financial Resources
Time/Operational Resources
Support & Training Resources

- What is the time frame to recover the ROI.?

The total money spent on the project is ₹2 Crores

It is funded under CSR (Corporate Social Responsibility)

(Non profit) – Helping farmers to get fertilizers, seeds, and pesticides easily.

Financial ROI

Charging companies to list their products

Ads or promotions on the platform

- **How to identify stakeholders.?**

Understand the Project Scope

List All Involved Groups

Classify Stakeholders by Role

Use a Stakeholder Identification Template

Q 8. SDLC Methodologies

SDLC (Software Development Life Cycle) is a structured process used to design, develop, test, and deliver software.

Four common SDLC methodologies are

1. Sequential Model

Sequential model is also known as waterfall model.

Sequential model is a step-by-step, one phase is completed before the next begins.

Sequential model is easy to understand.

2. Iterative Model

The system is built and improved in repeated cycles (iterations). Each iteration delivers a working version.

Iterative model can improve based on feedback.

3. Evolutionary Model

Evolutionary model is Similar to Iterative, but more focused on rapid prototyping and feedback. The system evolves based on user input.

Here is fast user feedback.

4. Agile Model

Agile model is highly flexible and works in short cycles called sprints. Continuous planning, development, testing, and delivery.

Agile model adapts to change quickly.

Here delivers working software fast.

Q 9. When the APT IT SOLUTIONS company got the project to make this online agriculture product store, there is a difference of opinion between a couple of SMEs and the project team regarding which methodology would be more suitable for this project. SMEs are stressing on using the V model and the project team is leaning more onto the side of waterfall model. As a business analyst, which methodology do you think would be better for this project?

SDLC methodologies are

Waterfall model

It is a step by step process

Easy to manage but changes are hard to make it later

V model

Similar to waterfall model but focus more on testing

Each development step as testing step

But not flexible to change it later

RUP

Work done in phases or cycles

Good for big or complex projects

Spiral

Focus on risk and improvement

Useful for research or risky projects

Agile

Work in small cycles

Gets early feedback from clients

Easy to make changes anytime and it is very flexible

As a Business analyst I suggest using scrum (Agile) for this project because its flexible, quick and easy. Let us involve farmers early to ensure quality and performance, we can also include some testing ideas from the V model as SME's suggested.

Q .10 Differences Between Waterfall Model and V-Model.?

Waterfall	V-Model
Low cost Move in linear way Less customer involvement Step by step process Testing happens after development Errors are found late More focus on development Simple and small projects Hard to make changes later Documentation is less focused on testing Feedback comes after development Poor in risk control User involvement is less	Expensive Don't move in linear way More customer involvement Testing linked to each step Testing done after each step Errors are found early Equal focus on development and testing High quality projects Here also hard but better for finding mistakes early Strong documentation for both development and testing Feedback and correction planned throughout the lifecycle Handling risk due to early validation User involves in validation

Q. 11 As a BA, state your reason for choosing one model for this project.?

As a BA I suggest using the V model for this project.

The main reason to choose this V model because the project has clear requirements from the starting to what farmers need, what products will be sold, and how the system should work. Because everything is well understood and the budget and timeline are fixed, using the V-Model makes easy. This model helps us work step-by-step, making sure each part is tested properly before moving on. That way, we reduce mistakes and make sure the app works as expected.

Q. 12 Gantt Chart

[illegible]

Q. 13 Explain the difference between Fixed Bid and Billing projects.?

Fixed bid

Cost fixed before the project start.
Company takes more risk
Low – hard to change scope
Clear and well defined projects
Easy for clients for budget control
Fixed bid when the scope is fixed and clear

Billing projects

Cost is based on hours or efforts based
Clients take more risk
Easy to add or change work
Harder for clients for budget control
Billing model when the work may change

Q.14 Timesheets of a BA in various stages of SDLC.?

Timesheets are records that show how much time a person spends working on different tasks or projects each day.

Design Timesheet of a BA

Day	Project phase	Task	Time in	Time out	Total hours
Mon	Requirement gathering	Requirement gathering session with stakeholder (peter,kevin,ben)	9:30 Am	6:00 Pm	8.5 hr
Tue	Requirement analysis	Prepared BRD	9:30 Am	6:00 Pm	8.5 hr
Wed	Design	Created use case and discussed with devp team	9:30 Am	6:00 Pm	8.5 hr
Thu	Design	review functional specs with testing team	9:30 Am	6:00 Pm	8.5 hr
Fri	UAT planning	Preparing UAT test scenarios	9:30 Am	6:00 Pm	8.5 hr
					42.5hr

Development Timesheet of a BA

Day	Project phase	Task	Time in	Time out	Total hours
Mon	Seed ordering module	UI Designs	9:30 Am	6:00 Pm	8.5 hr
Tue	Fertilizer listing module	Coordinate with devp team to clarify	9:30 Am	6:00 Pm	8.5 hr
Wed	Filter feature	Updated RTM	9:30 Am	6:00 Pm	8.5 hr
Thu	Order tracking UI	Sprint review and feedback	9:30 Am	6:00 Pm	8.5 hr
Fri	Payment integration	Document for payment method update	9:30 Am	6:00 Pm	8.5 hr

Testing Timesheet of a BA

Day	Project phase	Task	Time in	Time out	Total hours
Mon	Testing 1 seed module test	Test case with QA team	9:30 Am	6:00 Pm	8.5 hr
Tue	Testing 1 seed module test	Helped QA team to understand business process flow	9:30 Am	6:00 Pm	8.5 hr
Wed	Testing 2 fertilizer testing	Review meeting	9:30 Am	6:00 Pm	8.5 hr
Thu	Testing 2 fertilizer testing	Updated RTM	9:30 Am	6:00 Pm	8.5 hr
Fri	UAT end user test	UAT script creation	9:30 Am	6:00 Pm	8.5 hr

UAT Timesheet of a BA

Day	Task	Time in	Time out	Total hours
Mon	Created UAT plan and shared with stakeholder team	9:30 Am	6:00 Pm	8.5 hr
Tue	Conducted UAT session with farmers	9:30 Am	6:00 Pm	8.5 hr
Wed	Collected feedback	9:30 Am	6:00 Pm	8.5 hr
Thu	Coordinated with devp and testers team to fix errors/updates	9:30 Am	6:00 Pm	8.5 hr
Fri	Fixed issues with users	9:30 Am	6:00 Pm	8.5 hr

Deployment & Implementation Timesheet of a BA

Day	Task	Time in	Time out	Total hours
Mon	Participated in go live checklist review	9:30 Am	6:00 Pm	8.5 hr
Tue	Final data validation	9:30 Am	6:00 Pm	8.5 hr
Wed	Support development and system performance	9:30 Am	6:00 Pm	8.5 hr
Thu	Helped with user training	9:30 Am	6:00 Pm	8.5 hr
Fri	Addressed issues reported by users	9:30 Am	6:00 Pm	8.5 hr