Project Title: Smart Farming-IOT Enabled smart farming application

Project Design Phase-I - **Solution Fit Template**

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Define CS, fit into CC

Explore AS, differentiate

Focus on J&P, tap into BE, understand

1. CUSTOMER SEGMENT(S) `CS`

Farmers can be sub-segmented under three categories.
¬ Micro, small, or marginal
¬ Emerging and large
¬ Commercial Farmer
Based on farm:
¬ Surplus
¬ Gross revenue
¬ Land under cultivation

6. CUSTOMER CONSTRAINTS `CC`

The country's sustainable agricultural development has many obstacles. These includes
¬ Agricultural water-use shortage
¬ Cultivated land loss
¬ Inappropriate usage of fertilizers and pesticides
¬ Environmental degradation

5. AVAILABLE SOLUTIONS `AS`

IoT in agriculture uses robots, drones, remote sensors, and computer imaging combined with continuously progressing machine learning and analytical tools for monitoring crops, surveying, and mapping the fields, and providing data to farmers for rational farm management plans to save both time and money

2. JOBS-TO-BE-DONE / PROBLEMS `J&P`

1. Monitoring of climate conditions
2. Greenhouse automation
3. Crop management
4. Cattle monitoring and management
5. Precision farming
6. Agricultural drones
7. Predictive analytics for smart farming
8. End-to-end farm management systems

9. PROBLEM ROOT CAUSE `RC`

1. Connectivity in rural areas
2. Cope with climate change, soil erosion and biodiversity loss
3. Satisfy customer's changing tastes and expectations
4. Meet rising demand for more food of higher quality
5. High adaptive cost
6. Lack of information

7. BEHAVIOUR `BE`

Online: farmers can monitor all the sensor parameters by using web or mobile application even if the farmer is not near his field

Agriculture has been mainly of an economic nature but the quite different social approach has grown more recently.

3. TRIGGERS `TR`

Optical information, virtual fence technologies allow cattle herd management based remote-sensing signals and sensors or actuators attached to the livestock

4. EMOTIONS: BEFORE / AFTER `EM`

Increased production: the optimization of all the processes related to agriculture and livestock-rearing increases production rates.

Water saving: weather forecasts and sensors that measure soil moisture and for the right length of time.

BEFORE: Farmers are feeling helpless ,frustrated in order to be always present to manage end to end farming
AFTER: Farmers will feel much relaxed as well as encouraged ,if production output increases

10. YOUR SOLUTION `SL`

Sensor: Visual sensor and biosensors constitute a significant part of the solution to automate the monitoring process of farm animals. Sensors and biosensors in this context refer to devices that ensure data about a specific physical, chemical.

The global positioning system(GPS): is satellite based standard sensing technology used for tracking farm animal's location.

we use iot enabled products to provide knowledge as well as guidelines, help ,amount of usage of modern tools ,sensors to detect problems ,iot devices provides reminder incase of emergencies , better product network with iot connection .

8. CHANNELS of BEHAVIOUR `CH`

8.1 ONLINE

Digitalization innovation as a means to increase agricultural sustainability

8.2 OFFLINE

Well-informed, technology-interested young crop farmers in Germany rate SFT environmental performance with caution.

AKIS stakeholders agree that most barriers to adoption are linked to technologies' and infrastructures' deficits

Innovation targeted communication between farmers and technology developers or providers is not well developed.

Multi-actor approaches can be substantial to link various stakeholders although no direct impact may be observed.