Data Analytics Process:

Application in Real Life Scenario - Case Study / PPT

Background Story of Project Topic:

I am come from Rural Agricultural Family. My father was Teacher, who work hard against all difficulties all over his life. And with my father's positive contributions, our family not only grow in socio-economical standards. But also, foundation of future generation shifted from Agriculture to Educational & skill-oriented jobs.

With this influence, I am also wanted to became a govt. Grade-A civil servant, so I can contribute to my family, as well as to society. Even I failed to achieve my govt. job dream, but that drive to do something for family and society always there in me. My all-accumulated knowledge, understanding and personal interest, makes me enthusiast for business and startups. Here I got second hope & purpose. So, I am always interested to study entrepreneur journey of startups & success story of big business. Also, try to discover & decode story & business model behind all business & startups.

This all-accumulated knowledge, understanding and personal interest for family business, helps me to create and think about different business ideas. I believe that, those ideas not only solve social problems but also build Robust Economic Revenue Model for families. So, I can direct or indirectly contribute to other's families and society ultimately.

Now, the topic choose for this Project is also one of my personal Idea, which related to Agriculture in Village. ***Topic Name – "Organic Vegetable Farming with Hydroponic system, in Village."***

Description-

The reduction of profitability in agriculture sector, and the reduction in percentage of farmers involvement in Traditional-Agriculture in villages, also the overall unemployment of nation, all those factors are directly or indirectly proportional to each other. The economic plans and subsidies of central & state governments are not fully utilised by villages, for improve agriculture sector. The Organic Agriculture can become a gamechanger for future generations.

So, "here we are trying to explore possible solutions, for 'economic growth & employment' – to achieve overall growth in village, through or the with help of prompting Organic Agriculture."

Plan-

The Agricultural sector is very diverse and dynamic, there is lots of factors which can directly or indirectly impact on final outputs. So, with considering all those factors we should prepare a good plan beforehand.

To achieve overall growth of village from promoting Organic Farming:

first of all, we must select -(a) Business model with suitable installation system, (b) Production method with agriculture-segment, and (c) Final production - which can be easier and helpful for majority of village-famers to achieve. Because ultimately, they are the one who are implementing this business plan.

Preparation-

After initial planning, we need to make arrangements to start our discussion with all stakeholders about project, where all farmers, wise & knowledgeable personalities from village, village-Head, and also, some interested Financial-Investors & government officials will come, we ask them to come for this initial discussion. Here, we collect initial data from all stakeholders about current status on 'Agroeconomic' situation of village, and their thoughts over our business Initiative.

For example –

(A) From farmers: we collect data about there land holding, economic standing like ongoing financial loans or how much financial burden they can carry.

(B) From Village Head: we can collect data about overall socio-economic growth of village from last decade. To make batter decision when planning whole business model.

(C) From Govt. officials: we can ask them about govt. schemes regarding 'Organic-Farming', govt. initiatives to promote organic or agriculture industry.

(D) From private Business/ investors: we can ask them, how much they can invest and at what investment returns or with which conditions, they are willing to invest their money.

Process-

As per our plan, we step by step address all factors and finalised everything required for this project:

(a) Selection of the Business Model with Suitable installation system:

- In hydroponic system, we create a separate controlled 'agricultural environment' with the use of polyhouse. Also, there is no use of traditional methods, such as soil-based crops.
- We grow crops with the help of nutrition dissolved water, but with direct use of water & targeted approach [where crop roots are directly observing nutrition from water], we reduced water consumption up to 90% compare to traditional soil-based farming.

→→ Any 'Hydroponics-system' has 3 components that is,

- polyhouse- [used for creating controlled atmosphere for crops],
- System setup used- [For leaf based small plants use – NFT system or Deep-Water System. & For large plants i.e. tomato, red chillies etc. we can use – Circular Nutrition flow setup or Coco-pit type with Drip irrigation setup],
- Technology used- [Semi-automatic or Fully-automatic setup].

(b) Selection of the Production Method/ Segment:

- Here, we not want to convert all agricultural production/system of village, into 100% organic farming ecosystem. Here, we only want to setup a small "Hydroponic-Organic system" for every individual farmer, which not only give a financial support to that farmer to continue traditional-farming, like cash crop farming & dairy farming.
- Also, this sustainable organic farming can promote organic and healthy food products into local & city market at higher profitability, with environment friendly ecosystem. We will grow organic vegetables with NFT operating system, which help us to achieve our required quality and quantity of production with profitability.

(c) Define/Fixing the Final Production which should achieve:

- The capital investment required for this setup's are come from govt. subsidy backed bank loan system or from govt.-initiated schemes for promote Agriculture Industry.
- Also, private players can also make investment with partnership with farmers, like B2B business model.

To achieve profitability from this business, every farmer take production according to larger plans makes at village level, so the quantity of production and the overall product quality, both can be achieved at a highest level. To achieve this goal, the product quality & quantity must be defined and methodology behind production cycle should also be defined beforehand, so we can control & manipulate profitability of business at every level.

Analyse-

Here, we already have data about land holding of individual farmer and their financial status. Also, we have understanding and access of agriculture markets of village and surrounding city, town & govt. mandi areas. With all of this data and overall understanding, we can create a flexible hydroponic system. This system can be flexible enough, so can easily implemented by every farmer with minimum changes according to their individual special situations and conditions, -like their individual land, road availability to the farm area, finance, number of people available in families to contribute in farming etc.

We can analyse all data and possibilities before finalize, Hydroponic system, Product & also the Production-we take from this system, at large scale simultaneously at village level.

Share-

After final analysis and completing all studies regarding this project, we need to call another meeting or make arrangements for discussion with all stakeholders, where all farmers, wise & knowledgeable personalities from village, village-Head, and also, some interested Financial-Investors & government officials, we ask them to come again for this discussion on final business model, so we can take final steps to implement this project in village, after everyone pass this project with majority.

Act-

We create a separate office to help farmers to apply for Hydroponic system with proper documentation, we create another section which take care of all installation process of hydroponic plants in village and do maintenance.

The sales & marketing department can take care of all transportation and other things related to production and selling. Finance department take care of all finance related tasks.

So, in the end we will achieve our goal. And this project will improve 'economic growth & employment' – also achieve overall growth in village, with help of prompting "Organic Agriculture."

Data Analytics Process link with above Example:

Business Understanding-

The reduction of profitability in agriculture sector, and the reduction in percentage of farmers involvement in Traditional-Agriculture in villages, also the overall unemployment of nation, all those factors are directly or indirectly proportional to each other.

So, from this project/ initiative: "here we are trying to explore possible solutions, for 'economic growth & employment' – to achieve overall growth in village, with the help of prompting Organic Agriculture."

Data Collection-

Here, we have collected data about land holding of individual farmer from village and their financial status.

Also, we have collected all data related to agriculture markets of village and surrounding city, town & govt. mandi areas, to determine price differences between different vegetables we want to grow.

We want to create a flexible hydroponic system which can be flexible enough, to easily implemented by every farmer with minimum changes.

So, we also collect raw data, according to their individual special situations and conditions, -like their individual land, road availability to the farm area, finance, number of people available in families to contribute in farming etc.

Data Cleaning-

We clean all collected data from village and govt. officials and also clean all raw-private data collected from internet servers. Also, we remove duplicate & missing values, correct errors and finally normalise data format.

After cleaning all this data, we arrange all data into tables according to our need and functions. So, it helps us to find valuables actionable insights from them.

Extracting Insights-

We convert ugly & raw data into actionable insights according to our business understanding & business need. We use different charts, graphs and other visuals to present data into reports.

The better storytelling with highlighting benefits and other important business results, like profitability we can achieve & impact we can create on individual life.

We can also measure project outcomes after implementation, by using different metrics and KPI's, for evaluate project effectiveness.

Communicate Results-

with the charts and dashboards, display project outcomes and final results. Also, with better storytelling, we can highlight benefits and other important business results, in-front of all stakeholders, where all farmers, wise & knowledgeable personalities from village, village-Head, and also, some interested Financial-Investors & government officials are present.

Choose the right model-

After discussion, we finalize our Project Methodology and final Project, on basis of - (a)Business Model, (b) Production Method, (c) production quality and quantity we want to achieve on village level.

Monitoring the outcome-

Continuously monitor the Project model's performance, check accuracy of predictions like Profitability, production quality and quantity. And then make required adjustments, according to final outcomes we get, after monitoring the results.