A Cloud Computing Based Study on Impact of Agriculture

Sunandha Rajagopal[1], Zen Sunny[2], Dhannya J[3], Arjun Krishna[4]

([1]Assistant Professor, Kristu Jyoti College of Management and Technology, Kottayam, Kerala, India)

([2]MCA, Kristu Jyoti College of Management and Technology, Kottayam, Kerala, India)

([3]Assistant Professor, KristuJyoti College of Management and Technology, Kottayam, Kerala, India)

([4]MCA, Kristu Jyoti College of Management and Technology, Kottayam, Kerala, India)

Abstract

The meticulous contemplation of this inspection allocate a comprehensive analysis about the subject-matter entitled 'Cloud Computing'. Cloud computing is a vast array of network based environment which emphasis on areas such as sharing computations, storage, service, applications, and other cardinal computing resources. In the World of modernization, computing technology is an indispensable determinant, that is beneficial for all agricultural concomitant data catalogues including soil, weather, research, crop, farmers, agricultural marketing, fertilizer, and pesticide information in the cloud.

Contemporary technological burgeoning precipitated a swingeing transmute in each respective domains comprehending agricultural sectors. Contradictorily, cloud computing technology is indisputably rebounding on cultivated fields.

Moreover, it brings forth efficacious progress in both agricultural lands and services they yield.

This indignation also directs one's attention to computing model, characteristics, deployment model, cloud service model, cloud benefits and challenge of cloud computing in agriculture field.

Keywords: Cloud Model, Cloud Services, Agriculture

1. Introduction:

The proliferated expansion of IT and communications in addition to the growth of data sizes in the network, which is interlaced with the divulgence of new applications and computing needs, capacity and implements are escalating steadily.

Cloud Computing

Cloud computing is an advanced stratagem which purposes the information computing storage from PC's into giant data center. This information needs services via internet. On the other hand, the third person requisite to do his computational requirements, service efficiency, storage capacity, and increasing the reliability in Agricultural area.

Cloud computing applications in agriculture lays in the place of theoretical study but it lacks it's Mature cases. This technology is reasonable to ameliorate the agricultural field construction which is a Amalgamation of agricultural information and modernization.

2. Cloud Computing Technologies

At present, the tremendous lose track of agricultural land biodiversity is a certitude without any Elucidation. Along with this bog-standard affirmation, the deleterious weather conditions persuaded besides Climatic variability. The rise of global population brings out scuffling to procure needful resources. This Statement proffered a defective delineation of the future.

We, the inhabitants of the Earth might be able to crop up this highly perplexing environment by Underpinning the new-fangled technologies which is already set in motion. Accordingly, Cloud Computing is a formidable asset.

There are practical applications for the use of cloud computing that generate a whole ecosystem From sensors and monitoring tools that accumulate soil data to agriculture field images and inspections From humans on the ground feeding data repositories along with their GPS coordinates.

The structure of the cloud computing based agricultural system

An open cloud-based system encapsulates and shares data for the multifarious accuracy of agricultural/environmental vandalism. Furthermore, cloud technologies have expanded their support to aid in elements such as food and agricultural industries. Consequently, we will use the information communication technology as a postulation to corroborate copious food reservoirs in the future. It gives prospective changes in the agricultural fields

On that account, I can state that cloud computing is a major desideratum in agricultural fields which is increasing rapidly in number. The final demand and the statement of the term 'cloud computing' drive the farmers to raise potential questions. I've identified the top five things you need to know before entering the cloud, according to IT experts:

a). Private or Public

Intrinsically, A private cloud is fabricated by using your assets in data center which dispense the end-users with full control. It also divulge the management overhead. On the grounds of the acknowledgement, the Internal Cloud services will moderately alleviate the Management encumbrance and the absolute outlay of some control.

b). Is security a concern

In the first instance, people were bothered about the security of cloud computing platforms. But from this time forward, the constructive logical approach of the people apprehends the reliability of cloud computing rather than the apple cart of conventional methods.

c). What are benefits?

The idiosyncrasies of cloud computing considerably lessened the cost and convolution of holding and operating computers and networks. The substantial positive characteristic of cloud computing drew attention to the ineluctable services which can be customized as per the exigencies of the end- users. It is pliable in nature which renders an easy way to handle. The provider' can offer pioneering services which an individual company might not have. In certain situations, the scantiness of money can also be a rationale behind the lack horns.

d). How can I ensure success?

In a manner of conforming with the analytical direction of an online survey held in April,2001 by Baseline paraded two critical elements of a cloud strategy which are not frequently cognized. It also give attention to the service levels and pay great emphasis on integration. Therefore, IT leaders should obtain hands-on experience

e). Will the role of my IT Department change?

Cloud Computing will not obliterate the need for an IT Team. But, gradually it will revise the role they plays within an organization. Cloud Computing cough up much of it's time in monitoring and recovering all

devices and systems to assure whether they are available for business operations or else.

3. <u>Agricultural Model</u>

Cloud Computing seems propitious for farmers to access information from predictive analysis institutes where by they can have an error-free prophecy of products which are in demand by different market to adjust it's production. This inducement leads the farmers to Knowledge-based repositories including an innumerable information concerning farming practices, crop input, agricultural innovations, pesticides, seeds, fertilizers, nutrients, and weed resistance. All these things come along with the resource person from an extensive sources ie, Farming processing of an agricultural products. This scenario can also be expand to include access to consumer databases, supply chains, and billing systems.

Numerous Farmers and those in agricultural sectors adhere themselves into Nature. But, what if farmers can take back control with the help of modern technologies.
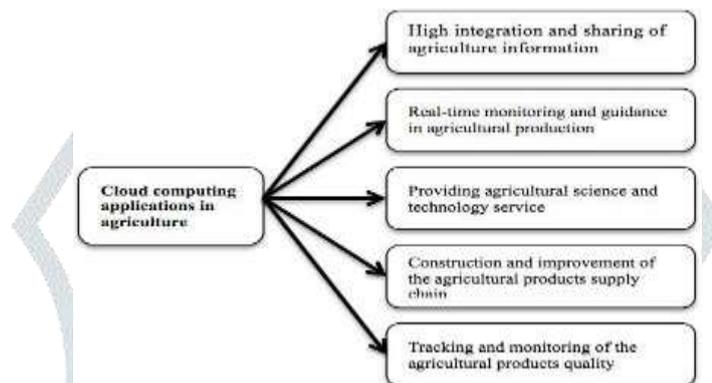
Cloud computing can be used to aggregate data from tools like weather stations, satellite images, and soil sensors to help farmers make good decisions about managing their crops. The cloud's analytic capabilities also aid farmers in understanding their production environment.

Meanwhile, farmers themselves seize hand-on with the cloud. Farmers can also conceptualize their fields on the map. So that, they can pinpoint their ways which needs more fertilizer and water. On that condition, by providing decision support and automation. So, this cloud based solutions will help to resolve agricultural quandary. It also increases the competence and productivity of farms.
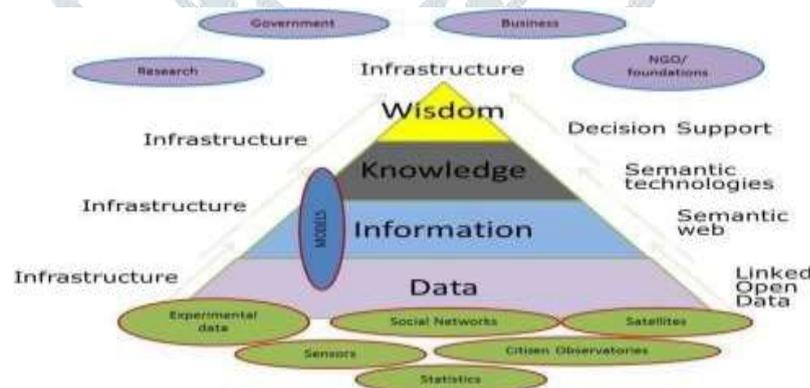
The prevailing hindrance for the appropriation of cloud computing is based upon the rural internet Speed. The gigabytes of image take hours to activate it's services. Sometimes, it takes even number of Days to upload the cloud due to internet connectivity issues. This laggard round-trip will detain the cloud decision making. Data privacy and security is the major concernment services for the agriculture.
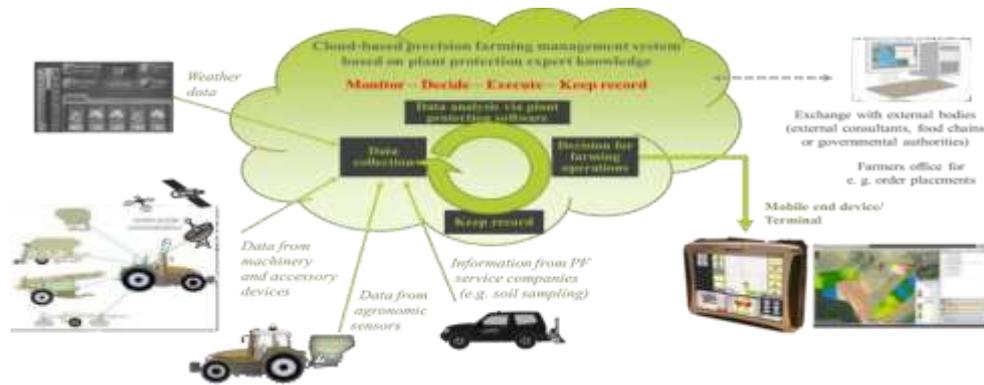
Cloud computing prerequisite an all-inclusive information in relation to the leading areas such as condition of farm, and operations to travel to the outside parties including the cloud supplier and third parties that help to examine the data in a methodical procedures. This can raise both privacy and security concerns for farmers, as they worry about who may gain access to information that reveals their farming strategies, their yield, their land, and their business operations.

Current Challenges in India

- Deficient production information
- Not enough sales and distribution information
- Poor knowledge about the weather forecast, pests and diseases.
- Lack of awareness among farmers about the benefits of ICT in agriculture.
- Insufficient power availability in rural areas.

4. Cloud Services

The utilization of Cloud Computing in agrestic India allows Information Technology to ingress the impoverished people to hold an enhanced life. It makes access to information available to the poorest of the poor to give them a better life, by empowering them with knowledge derived through the laptop or mobile phone connected to the Cloud.

The Cloud makes the following services affordable and accessible at a low cost:

- Banks
- E-learning
- Tele-medicine
- Commodity/stock exchanges
- KYC and credit bureaus
- Indian agricultural information
- Citizen interface portals

The cloud computing has an embryonic drive coasts of e-governance, education, medical care, and other government computerized initiatives. Here, the principal divergence in-between the rich and the poor is not a substantial point, because, cloud computing provide an equal of playing shield to all Indians.
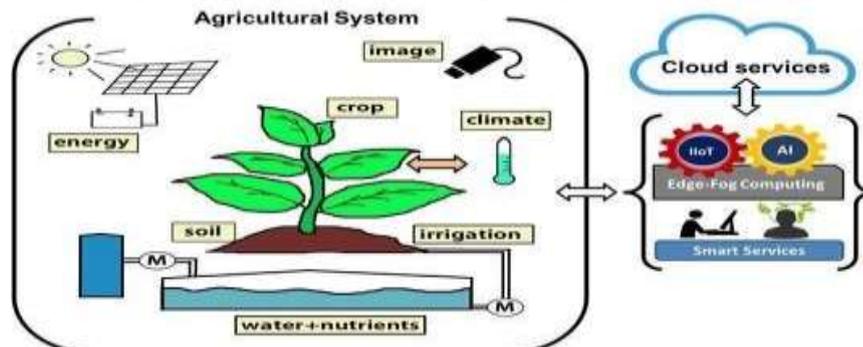
Although cloud computing is picking up the global market covering almost all the prime sectors, there is nothing much done in agricultural sector. Few countries like China, Japan, some parts of Africa, USA etc.

a. Benefits of Cloud Computing In Agriculture

❖ Data Readlines anytime and anywhere.
❖ Limited and Global Communications.
❖ Upgrade Economic state of affairs of the Nation.
❖ Aggrandize the GDP of the Nation.
❖ Ensure food security level.
❖ Inspiration of farmers and researchers.
❖ Rural-Urban movement.
❖ Data attainability in any time/any location without any setbacks.
❖ Refine the market price of food, seeds and other products.

5. Conclusion

This Compendious investigation endowed an elaborate study with reference to the subject-material Titled 'Cloud Computing'. Without any further ado, I must say, the cloud computing is a game changing Phase of IT which render a mammoth satisfaction to both computing services and their respective users. The constructive contrivance of this model will invigorate the agricultural sectors in it's subsequent Ways. Gradually, it's leads to the optimal benefit of shifting towards cloud. This triumphant implementation will assuredly hold a positive impact in all-embracing economic Recovery/economic growth of the Nation. Therefore, it's needs a mass awareness and promotion among The prime stockholders to grab the full potential of it to have a well-established base for the nation. In a Nutshell, cloud computing will lead us to a well-connected World.

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