



National e-Learning & e-Agriculture Platform Enriched With Big Data Deployed On Cloud



Quick Recap - Cloud & Big Data

1. Cloud Computing



Cloud computing is defined as a type of computing that relies on sharing computing resources rather than having local servers or personal devices to handle applications.


Big-data requires 'bottom-up' approach in analysis. i.e. finding relations first and mapping with use cases

Big data bring about by Integration multiple sources at an alarming Velocity, Volume and Variety

2. Big Data



new correlations that were never thought of to improve the productivity, effectiveness and efficiency. Moreover to make more informed decisions.



Why Cloud & Big Data? How would it matter ??

B I G D A T A

- C** Greener, cost-effective supports high growth large scale deployments
- L** Seamless Expansion, Replication and decommissioning
- O** More resilient for Disaster : inherent disaster recovery capability
- U** Improve utilization of physical HW and Storage
- D** Big Data inherently requires cloud for all of the above reasons

Provide more informative decision making ability

Help intelligent resource distribution, sharing and optimization

Find innovative approaches to traditional problems with the help of newly found co-relations



How to Operationalize ? Where should we start from?

Cloud brings common advantages across industries. IT IS THE CLOUD BASED SERVICE WHICH CREATE THE MAGIC.



Operationalization is not just having the platform, big-data analytics or the services...the SUSTAINABILITY LIES WITH building the ECO SYSTEM to operate and evolve the technology

In Sri Lanka there's NO BETTER PLACE TO START with than universities; using the infrastructure and connectivity of LEARN (Lanka Education And Research Network)

Start teaching the concepts, facilitate training and BREED TECHNOLOGY PROFESSIONALS.

Proposed e – Learning Platform

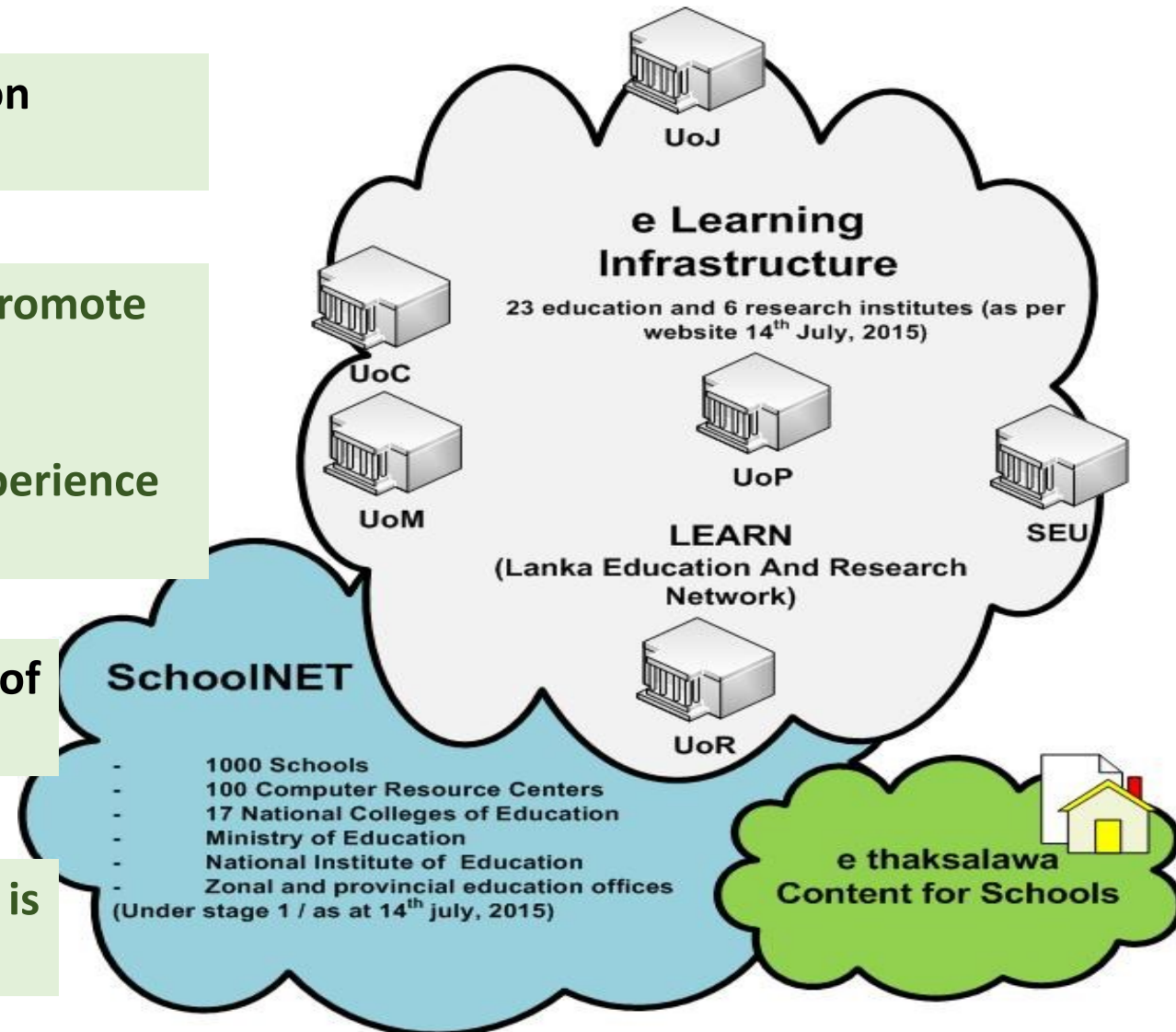
As I see the success of an e-learning platform depends on meeting two main objectives, namely;

1. Inclusion : Wider inclusion of the population to promote **EQUALITY**

2. Enrichment : is about **ELEVATING** the learning experience of all involved

Hence I propose **‘ELEVATED EQUALITY’** as the theme of the e-Learning platform

All included yet even the most advanced participant is elevated to the next level.





Explaining the e-Learning platform

The platform is best understood with use cases. In other words what are the services it should offer to achieve 'elevated equality'So what are these services to offer ??

1. Ubiquitous Access
2. Online Content Library
3. Optimal resource distribution, sharing and utilization
4. Big Data based predictive analysis
5. Discussion Forum / Chat Space
6. Reward system to improve the usability (participating surveys, answering queries, suggesting improvements, etc)



1. Ubiquitous Access



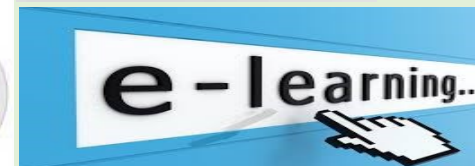
The platform should accommodate all the access methods to eliminate digital divide and to promote equality



The content in every format arranged in knowledge areas should be made available in all languages.



2. Content Library



3. Optimal resource distribution, sharing and utilization



Kandy Mahamaya year 11 English Class is streamed to one of the estate schools in Nuwara Eliya



Jaffna university conducts a physics lab session on sound waves covering all schools in Jaffna



- Resource allocation / sharing done based on presence, availability, bandwidth, knowledge level, location and range of other data insights.



4. Big Data based predictive analysis

The platform should provide predictive information as well as historic data analysis in the form of

After a screening test or based on system data on their performance, the students should be prompted with,

“With the term 1 results there’s a 60% of risk of failing Mathematics in fishing community covering schools A, B & C”

“Only 40% of schools have covered electronics in Physics and out of them only 20% of students have scored more than 50% in the electronic section”

“There’s a risk of O/L failure rate increasing by 15% if area 1 & area 2 hit by a drought for more than 30 days after August”



“You are recommend to undertake course 1 in English year 10 library found in path/....//”

“Your follow up revision module is available on path...//..../ please complete and submit the assessment end of it to progress to the next module”

5. Discussion Forum (Chat Space) / 6. Reward System

1



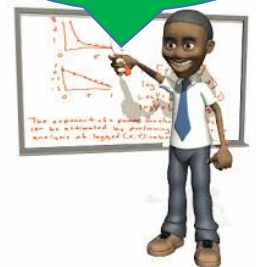
"What is cloud computing ? What improvements can bring ?"

"You question is forwarded to tutor 1, rank 5th in popularity index who is online, he is available to chat on <username>"

the slides available path <>, I'm available on </path/..>


Thanks ! Can you recommend video tutorial on Big Data too

2




My latest video tutorial on Bond Issue Analysis available on </path/..>


<Chat Space> General



Dear User following web tutorial is recommended to you



3




I found a solution for the issue facing on video sharing, check this out

Your solution is accepted, you have earned 12k reward points and 1st level hall of fame

<Chat Space> General

<broadcast> Note that the issue you all faced was solved by <user>..applause !!!

4




Can I have the recommended answer script of 2016 o/L English paper

Dear User you have earned 10 reward points

<Chat Space> English o/L

Here you are



Proposed e - Agriculture Platform

The e-agro platform should promote

Productivity

Fair-Trade

Minimize Wastage

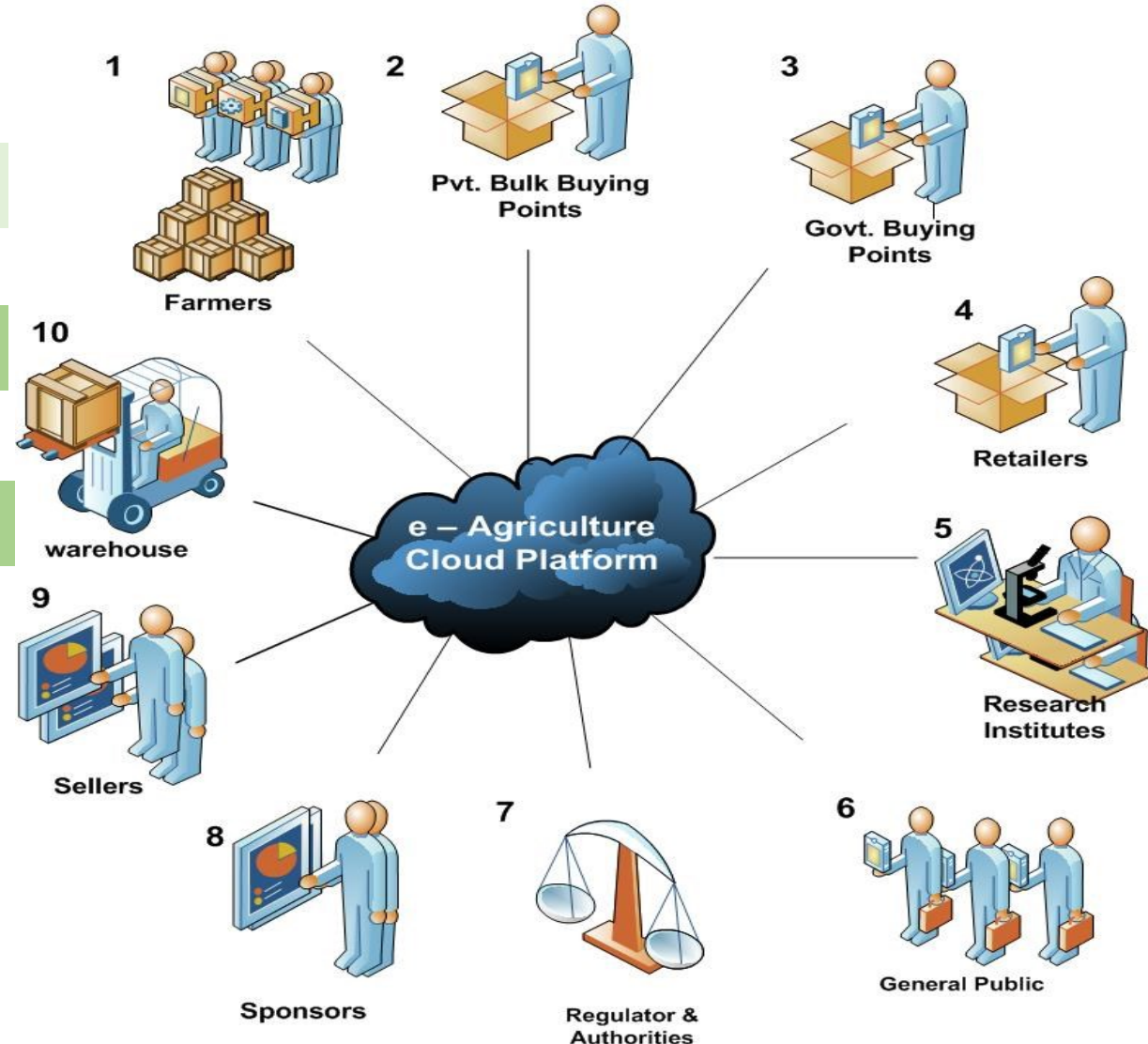
Efficiency in Industry

Optimal Resource Utilization

Ease of Use

The Platform Will Essentially be an **ebay** Like Trading Platform And An Information Exchange.

The Platform Is Best Explained How Each Stakeholder's Expectation Are Met.



1. Farmers

Directly Reach Authorities : Min Price, Buying Points & Complaints on a daily basis

Advertise Crop, Expected Price & Receive Offers

Real-Time Notification On Complaint Resolution

Receive Information On Sellers and Advertisements From Sponsors

Receive Information On Warehouses and Transport Agents


Receive Information On Research Institutes And Authorities

Seek Assistance And Notify About Viral/ Pandemic Threats



Wastage, Delays, Response Time

Fair-Trade, Productivity, Efficiency



2. Private Bulk Buyer/ 3. Govt. Buying Points



Make Offers Directly To Farmers

Receive Real-Time Information On Market Demand

Receive Real-Time Information On Market Demand & Trends

Publish Buying Price, Interested Quantity, Commodity & Spare Storage

Receive Offers From Retailers

Reach Transport Companies

Reach Authorities & Receive Research Data On Quality, Least Cost Transportation



Wastage, Manipulation, Response Time



Efficiency, Resource Optimization, Communication



5. Research Institutes



Equip Farmers With Information Needed To Practice Precision Agriculture

Implement & Progress Review Of Industry Best Practices

Respond Fast For Health Related Issues

Eliminate Pandemics And Viral Attacks Quickly

Waste Management – Alternative Users For Waste

Plan Better To Meet Future Demand



Wastage, Response Time



Efficiency, Resource Optimization, Productivity, Management



6. General Public/ 8. Sponsors

General Public

Receive Information On Price Level And Market Upper Limit

Be Notified On Health Issues And Industry Matters

Find Closest And Cheapest Retail Outlets

Reach Authorities



Sponsors

Ideally People Interested On Agro Community (i.e. Fertilizer, Seed, Machinery Sellers, Banks and Other Interested Parties)

100% Reach For The Target Community (Run Campaigns, Surveys, Promotions, etc)



Cost, Response Time, Hazard



Efficiency, Resource Optimization, Communication

7. Regulatory Authorities

Use The Platform As A Public Announcement Platform (Farmer, Media, Public, etc)

Have A Better Control Over The Industry And Trading

Action Against Malpractices & Corruption Swiftly

Reach All Stakeholders Directly

Achieve OPEX Savings From Administrative Expenses

Plan & Improve Productivity Of The Industry To Meet Future Demand

Cost, Response Time, Risk

Efficiency, Resource Optimization, Communication, Fair-Trade



சமூகபாடலா அலாைனாண்ட
கூட்டுறவு மற்ருடம் ஁ளநாட்டு வர்த்தக அமைச்சு
Ministry of Co-Operatives and Internal Trade



லாணிச டேபார்ட்மென்டலுல
DEPARTMENT OF COMMERCE
வணிகத் திணைக்களம்



Reach Target Market Directly



Receive Feedback On Products & Services

Run Effective Field Trails



Service Customers More Efficiently



Cost, Response Time,



Efficiency, Resource Optimization, Communication



Questions and Suggestions Are Welcomed



Prepared by,

Udaka Kappagoda , Manager IN & Data Services, Bharti Airtel Lanka (Pvt) Ltd.

ACMA, CGMA (UK)

BSc(First Class Honors) Electrical & Electronic Engineering, University of Peradeniya

MSc. International Business Management, University of West London

MBA. Postgraduate Institute of Management (PIM) University of Sri Jayewardenepura