Integration of cloud computing with Budgeting

[1]P.Sowmya, [2]D.Vishwa Mohan
[1]Assistant Professor(c), [2]Associate member of cost and management accountants
[1]Department of computer science,
[1]University college for women,Koti,Hyderabad,India

Abstract— This paper contain how the budgets are critical part of any organization and how cloud computing can boost such tools to a greater extent where it will be useful for most of the organization who could not even thought of affording it. Technology has been at its best in increasing the capacity and reducing the cost day after day. This also gives insight on different types of budget available and its functionality. It gives the structure of it and the usefulness. About the cloud computing, undoubtedly the best thing happened to the Industry in fact to each field. It not only reduces the cost but also gets the best product accessible by all. It gives how Budgeting can be implemented through cloud computing and accessible by group of people at minimal cost. Budgets have come out of traditional attire and got a new outfit to sustain the evolutionary business scenario and ever increasing Business demands. At present cloud computing seems to be the best solution available to bridge the gap between budgeting tool and the varied users.

Index Terms— Budgets, Cloud Computing, Organizations, Project Cost, Estimations and Projections.

I. INTRODUCTION

Any Journey starts with the first step we take; it's the same for any business where among the first few steps there comes the Budget apart from Planning. Well even the planning depends on the Budgeted numbers. Budgets are the prime facie requirement for the success of any Business. A traditional costing system has taken a giant leap cause of revolutionized cloud computing system [1]. It has reduced to the fraction of the present cost but also enhanced the performance compared to own hardware and system under the traditional method. Ever changing technology makes user to stick to such tools which help them to be updated with the current scenario and get optimum utilization of the product. Budget helps in planning, scheduling, analyzing and controlling the projects [2]. It gives an overview of it even before investment is made. Cloud computing gives speed, wider scope and easy access to such tools.

II. BACKGROUND

In earlier days, it was difficult to predict the future of the Business. Even now people find it difficult where the market has enhanced from physical to virtual world like cloud computing technology, but then there are many tools which actually reduce the gap between prediction and reality. Such tools include Budgets which not only estimates the future cost but also works as a standard to check on the deviations. Budget gives an overall view of the Revenue, Cost and profitability throughout the life span of the project/product. It gives the projections during the four phases of life cycle. i.e., Introduction, Growth, Maturity and Decline phase. It not only gives the total cost at a particular level but also gives cost projection at different levels under Flexible Budgets. Its scope does not limit it to show viability of the project but also helps in pricing the product to get assured profitability [3]. Budgets include standards and compares with Actuals to report the variances as per Managements requirement. A Goldman Sachs study published in January estimates that spending on cloud computing infrastructure and platforms will grow "at a 30% CAGR from 2013 through 2018. It's important to understand how budgeting is affected as adoption of cloud computing on a global level is accelerating.

Also in today's dynamic business environment, organizations cannot afford lengthy implementation process and need to get up and running as quickly as possible on their new software applications. Oracle Planning and Budgeting Cloud Service incorporates a number of cloud-specific features to make it extremely easy to get users up and running with virtually no training needed. These include a built in capabilities like multi-currency translations, time series spreading based on calendar, large amount of online help and tutorials, as well as best practice templates and guides. To simplify administration, Oracle Planning and Budgeting Cloud Service includes diagnostics and governors that assist with monitoring and troubleshooting an application [4].

III.CLOUD COMPUTING AND ITS TYPES:

Cloud computing means using the computing resources as a service through the network, usually the internet. Users can access these resources from anywhere via the internet. No need to maintain or manage these resources. Cloud computing is the combination of hardware and software based computing resources delivered as a networked service. With cloud computing, companies can scale up to massive capacities in an instant without having to invest in new infrastructure, train new personal or license new software.

Deployment models: According to the use and their deployment the cloud computing can be single or consist of multiple types of clouds such as [5]:

Public Clouds:

This is used by the general public like individuals, corporations and other types of organizations. Generally these clouds are managed by third parties over the internet and services are offered on pay per use basis. Software-as-a-Service and public clouds complement each other and help companies to leverage shared IT resources.

Private Clouds:

These are within the organization and exclusively available to that particular organization. Also known as internal clouds. These are built internally by the IT department staff. Sometimes due to magnitude this can also be outsource to third party.

Hybrid Clouds:

It's a combination of private and public clouds. It consist of infrastructure, platforms and applications. In this a vendor has a private cloud and associates with public cloud provider or vice versa [6].

Community Clouds:

With the name we can say its for a particular users from organizations that has similar concerns. (Such as compliance, security or planning department connected with budgeting etc)

IV.BUDGET COMPONENTS

Businesses are unique based on Geographical location, timing, product composition and customer base. With Cloud computing most of the capital cost has now become recurring operational expenses, so one can easily guess the magnitude of investment reduced. Though different setups, budgets still finds it place in every walk of life as it has some basic structure where the data fits for most of the organizations.

It can be categorized under Fixed cost and variable cost. Fixed is period cost and variable is based on level of activity under taken. A total project Budget includes the works cost, removal and relocation costs, design and construction contingencies, architectural, consultant and other fees and charges[7].

Time Period: The cost which relates to a particular time period. It does not depend on the level of productivity but on the number of days/months or years. It includes the charges incurred for hiring infrastructure as a service, rental charges etc.

Resources: Primary classification can be done under Men, Material and Machines. The cost incurred for hiring human resources and third party services through cloud computing. Due to fast changing technology it's always beneficial to use cloud computing rather than investing in Hardware.

Cost: It's a measure of utilization of resources and works as a guide in optimum utilization of it.

Automation: In current scenario most of the activities have become automatic like the flexible budgets which gets automatically adjusted to the change in the level of production. Also where the cloud computing structure is introduced the total cost is adjusted to reflect the correct cost.

Manual: No matter how much automation is done there are critical things which a human brain can understand and react. Few things cannot be measured in Money terms like behavior of employees, trends in the market and influence of government policies on a business.

V. **DETAILED DESCRIPTION OF EACH SECTOR**

Budgets get transformed into different structure according to the sectors and entity requirements.

Service Sector: The majority of cost is of human resource and cloud computing. Technological development has been reducing the cost but it still remains the critical part of the overall project.

Manufacturing Sector: Till the actual manufacturing activity the planning and designing part can still be made with the help of cloud computing.

Types of Budget [8]:

Fixed Budget: It's fixed and does not change with the turnover or volume of operations. It's decided at the beginning of the year and referred to throughout the period.

Flexible Budget: It's flexible enough to adjust according to the turnover, capacity change or volume of operations undertaken. It gives clear variance analysis eliminating the difference due to level of operations. It bifurcate it into fixed cost, variable cost and semi-variable cost into fixed and variable for better analysis.

Cost Budget: It only concerns with the cost centres and its cost. This is a part of whole budget, just to make sure that the management can allocate more time in fixing it before that year starts and operations team and take it as a guideline for executing the work.

Revenue Budget: Revenue budget taken into consideration the external environment and internal factors like capacity and resource availability for arriving at the projections.

Sales budget: Sales budget considers the source of revenue from the main objectives of the organization, like the core operations. Excluding the turnover due to other operations like sale of scrap, Other incomes etc.

Production budget: It's same like above just considers the main operations of the organization and its related cost.

Financial budget: It considers the finance cost of the organization, like source of funding and application of funds and its related cost like interest, finance charges etc.

Overheads budget: It analysis the cost of the organization which is generally fixed, like depreciation, rent, permanent staff etc. This is generally includes cost of maintenance.

Personnel budget: One of the critical resources: Human. This is one of the primary factors of production. (i.e. Men, Meterial & Machines). This covers the cost of staffing and its related cost. This budget is related to the manpower requirements and the cost allocation.

VI. HOW IT WORKS

Any Organization first looks at the viability of the project before proceeding further. The decision making depends on different factors. Some are non-monetary terms and for those which can be measured by monetary terms needs to be analysed in detail. One such mode of analyzing is Budgeting. It helps them to have an over view of entire project cost.

1. Initially the organization has to give general details related to project. Period of Budget, Nature of Industry and estimated turnover.
2. Select the type of Budget based on their requirement.
3. Fill the required information about the past and present transactions.
4. Statutory compliances should be mandatorily considered. Such as Tax rates for Direct and Indirect tax.
5. Impact of Management decisions and future activities should also be give due consideration.
6. If it has foreign currency transaction then the exchange fluctuation will be taken care by the system itself. Just have to give details of the currency in which it has transacted.
7. Exceptional reporting like scares resource and shortage of resources.

Below table gives the exhaustive list of items which can be considered by total budget cost. Such total Budget can be sub-divided as per above types like Revenue, cost Budgets etc.

Table: Overall budget views

Particulars	Budgeted Amount	Actual Amount
Opening Stock of Raw Material	***	***
Add: Purchase of Raw materials	***	***
Add: Purchase Expenses	***	***
Less: Closing stock of Raw Materials	***	***
Raw Materials Consumed , Direct wages & Charges	***	***
Prime cost	***	***
Add :- Factory Over Heads: Factory Rent, Power, Indirect Material, Wages etc.	***	***
Works cost Incurred	***	***
Add: Opening Stock of WIP	***	***
Less: Closing Stock of WIP	***	***
Works cost		
Add:- Administration Over Heads:- Office Rent, Asset Depreciation, Gen Charges etc.	***	***
Cost of Production		
Add: Opening stock of Finished Goods	***	***
Less: Closing stock of Finished Goods	***	***
Cost of Goods Sold	***	***
Add:- Selling and Distribution OH:- Sales man Commission, Salary etc.	***	***
Cost of Sales	***	***
Profit (balancing figure)	***	***
Sales	***	***

Once the budgeted and actual amounts are recorded, the analysis part begins where the variance is analyzed as favorable or unfavorable and scrutinized for the reason behind such variance. Once its analyzed the management prepares the action plan for corrective measures which needs to be taken up going forward. Below is the table showing the summary of variance.

Table: Budget variance analysis

Particulars	Favorable	Unfavorable	₹
Budgeted Profit : Add Favorable variances Less Unfavorable variances			
Sales Variances : Sales price variance Sales mix variance Sales quantity variance			
Cost variance :-			
Material : Cost variance Usage variance Mix variance			
Labour : Rate variance Mix variance Efficiency variance Idle time variance			
Fixed overhead variance : Expenditure variance			

Efficiency variance			
Fixed overhead variance : Expenditure variance Efficiency variance Capacity variance Calendar variance			

VII. BUDGETING THROUGH CLOUD COMPUTING

Cloud computing gives numerous solutions to the users of budgets according to their needs and level of management. No matter at which level the user is he can still get the required information. The major advantage of it is anywhere any time access to this system. The below diagram will give you an idea about the kind of interaction happens between the users and cloud computing related to budgeting services.

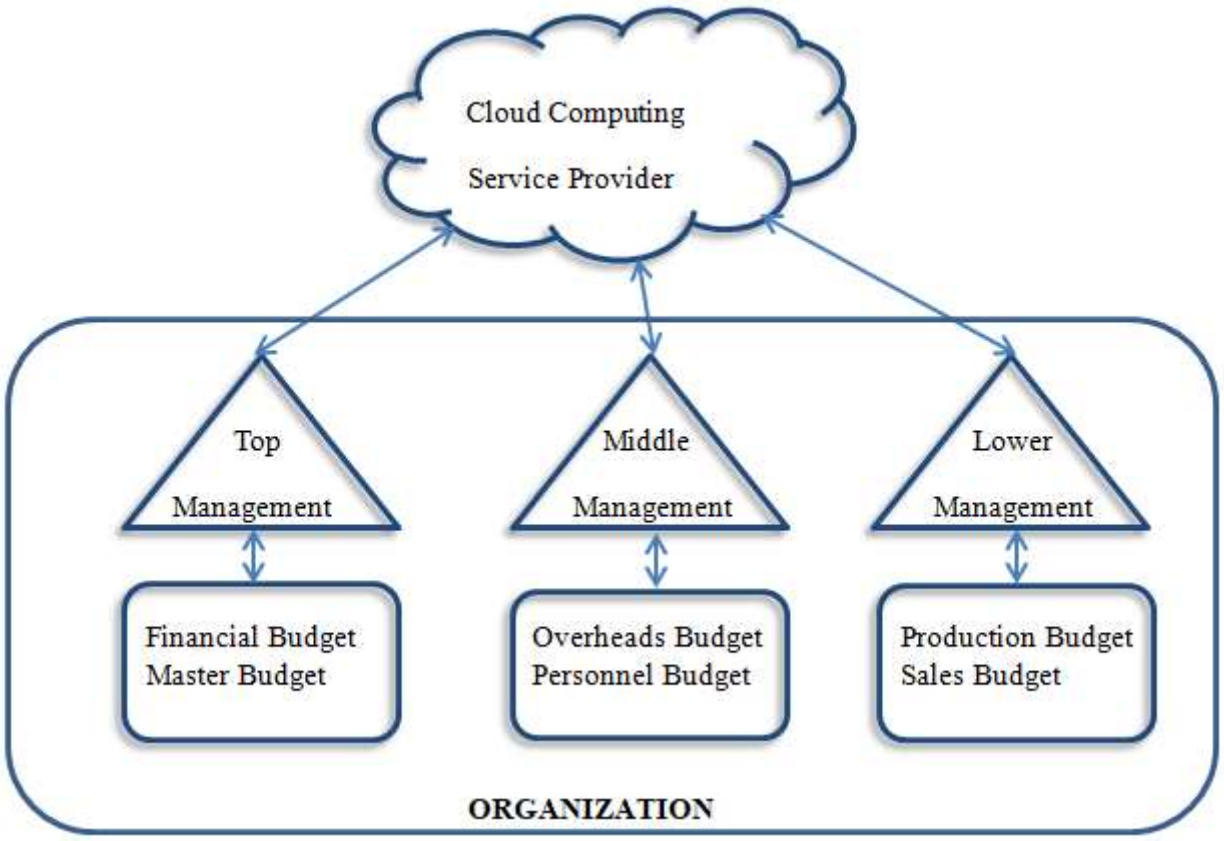

Figure: Budgeting Through Cloud Computing

VII.CONCLUSION AND FUTURE WORK

Technology is an ever changing concept, what is present was not even imagined around fifty years back. What is present may be an obsolete thing after few years. Unless stress is there it will not change and unless you change you cannot sustain in the market. So every organization has to be on toes to look for better opportunities and adapt to latest technology. Though the core area of budget will be the same but the mode of working may change and the scope of operations will differ from the present scenario. It may become a concept of outsourcing where confidentiality has to be maintained. Today cloud computing is a boost to every organization and this may not be the same with future, cloud computing will evolve itself to fit in the competitive environment.

II. ACKNOWLEDGMENT

I would be thankful to the University which gave me an option to contribute this paper. Also will be thankful to the Institute of Chartered Accountants of India for their publications which helped me in understanding core concepts of Budgeting and present it.

REFERENCES

[1] Abha Sachdev,Mohit Bhansali "Enhancing Cloud Computing Security using AES Algorithm" International Journal of Computer Applications(0975-8887) Volume 67-No.9,April 2013

[2] Karim Bennouna,Geoffrey G. Meredith,Teresa Marchant "Improved capital budgeting decision making: evidence from Canada" Journal of Management History (Archive) merged into Management Decision Online from: 1967

[3] http://www.cimaglobal.com/Documents/ImportedDocuments/cig_tg_budgeting_mar08.pdf

[4] http://www.oracle.com/us/solutions/cloud/planning-budgeting-cloud-service-1851924.pdf

[5] "Basic Cloud Computing Types" S. Srinivasan, Cloud Computing Basics, SpringerBriefs in Electrical and Computer Engineering, DOI 10.1007/978-1-4614-7699-3_2, © Springer Science+Business Media New York 2014

[6] Torry Harris ,"CLOUD COMPUTING – An Overview"

[7] Peter Claeys , Antonio Afonso "The Dynamic Behaviour of Budget Components and Output",ECB Working Paper No. 775

[8] " A paper on budgeting and budgetary control presented to sonu officials", by M Karue, 28thMay 2013