

# **BUDGET MODELLING AND ANALYSIS OF VOCERA COMMUNICATIONS**

Under the Esteemed Guidance of

**Dr. Richard Riehle**

(Professor)

In partial fulfillment for the award of degree of

**Masters**

**In**

**Software Engineering**



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**Department of Computer Science  
Engineering**

# DECLARATION

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# BUDGET INTRODUCTION

In a corporate world, budget is a comprehensive, formal plan that outlines an organization's financial and operational goals. It is an estimation of cost, revenues and resources over a specified period, which reflects the future conditions and goals. It is an integral part of any business to run effectively and efficiently. It is one of the main administrative / planning tools which also serve as:

1. Plan of action for achieving quantifiable objectives.
2. Standard for measuring performance.
3. Device for coping with foreseeable adverse condition.

A company might have master budget or profit plan for the upcoming year. The master budget will include projected income statement and balance sheet. Within the master budget will be operating budgets such as sales budget, production budget, marketing budget, administrative budget and budgets for departments. In addition there will be cash budget and a capital expenditures budget.

Budgeting describes the overall process of preparing and using of budget. Budgeting can help a company use its limited financial and human resources in a manner, which best exploit existing business opportunities. Good budgeting incorporates good business judgment in the review and analysis of past trend and data pertinent to the business.

Mostly the budget for upcoming fiscal year will be detailed quarterly and/or monthly. Once the annual budget is set it will remain unchanged for that period. Only in rare circumstances the annual budget is revised, but that happens only when business has radically changed/ under adverse condition.

To be successful the budgets should be prepared with certain principles:

- 1. Realistic and quantifiable:** Projections must be realistic and quantifiable as possible. If the projection goes out of line then the management should question the planning. A company allocates appropriate resources based on the evaluation of potential activities. Company achieves this through the quantification of cost and benefits of activities.

**2. Historical:** Budget reflects the past results and keen sense of future expected changes.

**3. Period Specific:** The budget period should be of reasonable length. The shorter the period, greater the need for detail and control mechanisms.

**4. Standardized:** To facilitate budget process, managers should use standardized forms, formulas and research techniques. This increases the efficiency and consistency of input and quality of planning.

**5. Successively reviewed:** There should be thorough review of budget proposals at successive management levels.

**6. Formally adopted and disseminated:** Top management should formally adopt the budget and communicates to the responsible personnel.

**7. Frequently evaluated:** On a regular basis, the responsible parties according to a schedule and standardized manner compare the actual results with their budgets. For an annual budget, managers usually report monthly, quarterly and semi-annually.

# WHY BUDGET

1. **Strategic Focus:** The annual budgeting process offers a critical opportunity to focus on what matters most. It expresses how resources will be allocated and what measures will be taken to evaluate progress
2. **Cash Flow:** Cash flow lies at the heart of any commercial enterprise. Each fiscal period, an organization must offset direct costs like materials and inventory as well as fixed costs like employees and lease payments with income from real or projected sales.
3. **Investor Confidence:** Businesses often rely on investors to fund startup, expansion and day-to-day operations. Investors often want to verify the viability of an organization's budget before offering investment dollars, and a working budget should serve as an integral part of a company's business plan.
4. **Expansion:** As the organization grows, budgeting can mean the difference between limiting operations and growing the business. Expansion often requires a tremendous capital outlay, and business leaders must carefully budget for new expenses like employees, equipment and real estate before jumping into expansion.
5. **Future Business Growth:** Budgeting for future growth opportunities ensures that companies have capital on hand when needing to make quick decisions for expanding business operations. This capital may also be used during slow economic times as a safety net for paying regular business expenses.
6. **Create Financial Roadmap:** Budgets often allow corporates to have a financial roadmap for business operations. Many companies review previous year's budgets to determine how well they followed the guidelines and why budget variances occurred. Not all budget variances may indicate a negative business situation.
7. **Limit Expenditures:** Business budget is the ability to limit how much money is spent on certain operations. Budgets usually count expense accounts to ensure that capital is not wasted on unessential items or the company does not overpay for economic resources used in the business.
8. **Control:** A budget gives corporate a form of control. When a budget is written down and spending expenses are determined, most corporate decide to

make changes in what must be incurred, invested, spent on employee and organization and how to cut unnecessary expenses.



## TYPES OF BUDGET

**Static Budget** - A static budget is a budget that is completed prior to the budget periods being forecasted, and which is fixed for the entire period covered by the budget, with no changes based on actual activity. Thus, even if actual sales volume changes significantly from the expectations documented in the static budget, you do not change the amounts listed in the budget.

**Flexible Budget** - A flexible budget is a budget that adjusts or flexes for changes in the volume of activity. The flexible budget is more sophisticated and useful than a static budget, which remains at one amount regardless of the volume of activity.

**Rolling Budget** - Method in which a budget established at the beginning of an accounting period is continually amended to reflect variances that arise due to changing circumstances.

**Zero-based Budgeting** - A method of budgeting in which all expenses must be justified for each new period. Zero-based budgeting start from a “zero base” and every function within an organization is analyzed for its needs and costs. It’s an approach to planning and decision-making, which reverses the working process of traditional budgeting.

**Activity Based Budget** - A method of budgeting in which the activities that incur costs in every functional area of an organization are recorded and their relationships are defined and analyzed. Activities are then tied to strategic goals, after which the costs of the activities needed are used to create the budget.

**Sales Budget** - The sales budget is an estimate of future sales, often broken down into both units and dollars. It is used to create company sales goals.

**Production Budget** - Product oriented companies create a production budget. It is an estimate of the number of units that must be manufactured in order to meet the sales goals. The production budget also estimates the various costs involved with manufacturing those units, such as labor, material, and other expenses.

**Cash Flow Budget** - The cash flow budget is a prediction of future cash receipts and expenditures for a particular time period. It usually covers a period in the short-term future. The cash flow budget helps the business determine when income will be sufficient to cover expenses and when the company will need to seek outside financing.

**Marketing Budget** - The marketing budget is an estimate of the funds needed for promotion, advertising, and public relations in order to market the product or service.

**Project Budget** - The project budget is a prediction of the costs associated with a particular company project. These costs include labor, materials, and other related expenses. The project budget is often broken down into specific tasks, with task budgets assigned to each.

**Capital Budget** - The process in which a business determines whether projects such as building a new plant or investing in a long-term venture are worth pursuing. Also known as “Investment Appraisal”.

**Master Budget** - A master budget refers to a summary of company's plans that set targets for production, expenses, sales, financing activities and distribution. It helps a company in setting the spending limits and tracking the expenses.

# PROS AND CONS OF BUDGET

## Pros:

**1. Increase participation in company financial decisions:** Each department gets a say in the corporate budgeting process. This might make the company more responsive to individual departments' needs, and it might make department managers feel better about their role in the organization.

**2. Create objective criteria by which departments can be judged:** At the end of the year, you can compare actual hard financial numbers to the budgets and easily determine whether departments did what they were supposed to do (at least in terms of spending), according to the corporate budgeting process.

**3. Incentivize employees:** Having specific financial goals in budget-form helps employees understand what is expected of them. Employees will feel motivated to achieve corporate budget goals by the very existence of the budget; bonus incentives can be added to increase that motivation (e.g., a financial reward for members of a department that meets its budget).

## Cons:

**1. Create conflict:** The corporate budgeting process is not always the idyllic experience you might imagine. In fact, it can lead to outright conflict as department managers compete for their constituencies' pieces of the company's budget pie. It is necessarily a zero-sum game, with winners and losers. Any time you have losers, you also have resentment. This negative side of budgeting can easily outweigh the positive feelings generated by department managers' participation in financial decision-making.

**2. Motivate departments to distort financial numbers:** Although it is useful to have a corporate budgeting process to create objective criteria by which to judge a department's behavior, such criteria inevitably tempt department heads to cook the books (i.e., distort their financial reporting in order to meet expectations). Because there are no set "rules" of the budget process, department managers might disregard ethical concerns about altering their behavior to meet budget requirements.

**3. Distort incentives:** Any time you create employee incentives; you run the risk of unintended consequences. If, for example, you set a strict financial limit on the funds available to buy office supplies, you might find that employees respond by being less productive (i.e., they slow down their work to avoid exceeding the office supplies budget). That is a simplistic example, and fairly transparent. In actual corporate budgeting situations, there are often difficult-to-see incentives and matching behaviors.

# FUNCTIONAL REQUIREMENTS

1. Budget Modeling and analysis should use the same baseline chart of account information (e.g., general ledger accounts, expenditure objects, source of revenue, grant, project, appropriation, organization (allotment), funds, etc.,) as the other ERP modules.
2. It should be done in such a way that it provides the ability to prepare multiple types of budget including appropriation, spending plan, and capital budgets etc.
3. There should be provision to develop both detail budgets, at any level of the chart of accounts (i.e. fund, organization (allotment), program, general ledger) and summary budgets in a distributed environment.
4. Assembling of multiple years of budgeting information should be done for budget preparation.
5. While budgeting processes organization should maintain all budget iterations, from Stakeholders request to Division of Budget to Legislative Adoption.
6. Budgeting process should have multiple phases and stages.
7. Usage of existing reports/inquiries, including graphs, to accommodate analysis of historical trends should be performed.
8. Should provide the ability to track position at multiple levels of authorization as established, budgeted, authorized, vacant, overlapped (2 people for same position).
9. People preparing budget should be familiarized with the payroll system to periodically update position control information based on actual employee / payroll data.
10. Budget division should retrieve budgeted amounts from employee benefit accounts for salary-driven benefits (pension savings, flex, and savings plan) by organization/allotment from prior fiscal year final budget data.
11. Facility to conduct budget to actual analysis for any level of detail in the chart of account structure on a real-time basis (must include history) should be performed for proper analysis.
12. Multiple calculation methodologies for salaries & benefits budget monitoring and "forecasting", including current salary range, Bonus, overtime, benefits, legislative authority, organizational unit, goals etc.

13. Should use a budget tool for various analysis and methodologies to store and compare data, forecasting, economic indicators, restructuring of organization.
14. Process should track all budget changes (transfers/amendments), authority, type of change, and reason for change in the budget amount.
15. Should provide hierarchical workflow approval for budget adjustments.

## NON FUNCTIONAL REQUIREMENT

1. Budget should be made in such a way that it meets the declared amount of budget. Budget should not be over budget and under budget.
2. It should be efficient enough to meet the employees, stakeholders and organizational needs.
3. Budget should be finalized in such a way that all hierarchical levels in an organization easily understand it.
4. Tools used in budgeting should be user friendly for employees, stakeholders to use and accurate while storing data and analyzing previous year data and calculations.
5. Tool should be safe of users to use it while preparation of budget.
6. Tool should not be vulnerable to external attacks. Viruses, threats.
7. Tool should meet all reliability standards (hardware, Software, Interfaces, memory) and also should be reusable with licenses.

# VOCERA COMMUNICATIONS

## Introduction

Vocera, Inc. is a wireless communications company headquartered in San Jose, California. It was founded in 2000 and it specializes in network-based software systems that provide voice communication for mobile personnel in hospital, retail, hospitality, government, manufacturing and other in-building environments with a dispersed workforce.

## Vocera Product - Communications Badge

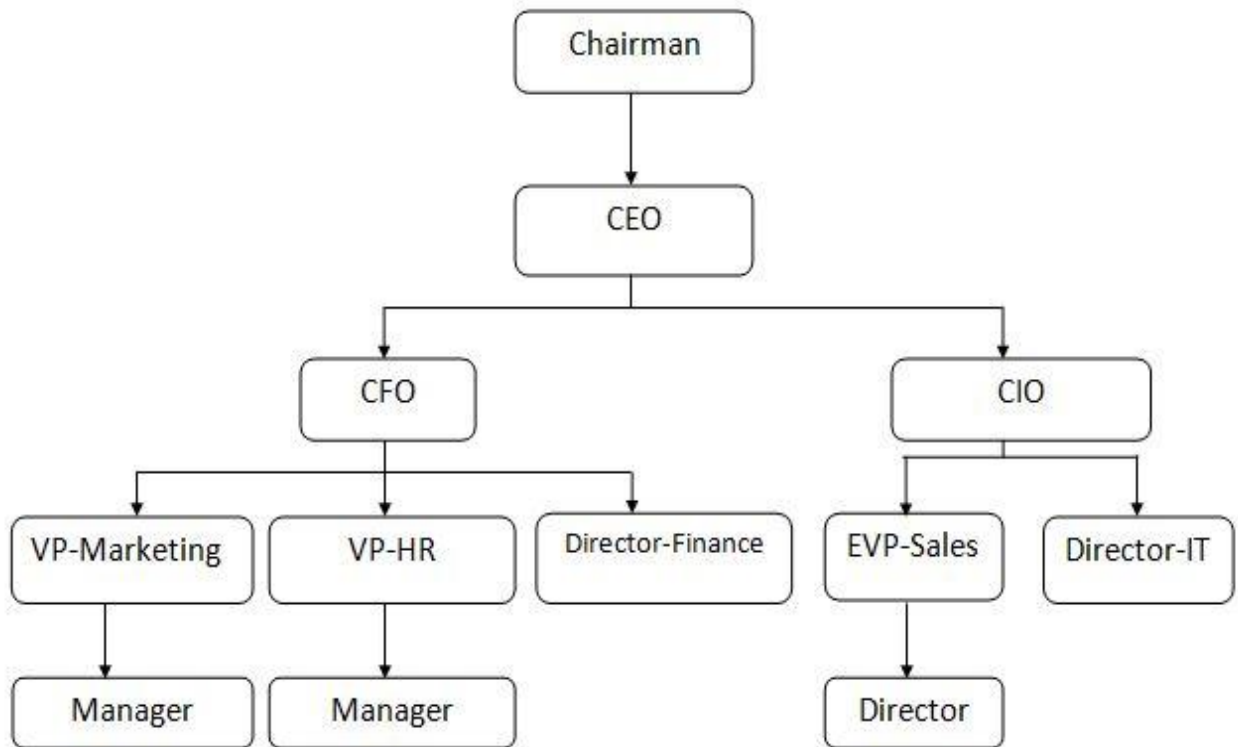
The Vocera Communications Badge is one part of a complete wireless Voice over IP communication system developed by Vocera Communications. The badge is used primarily by medical and healthcare facilities and also in retail, hospitality, government and manufacturing settings. It provides a voice-controlled user interface to the Vocera Communications System.



The Vocera Badge is voice-controlled and has the ability to do role-based calling which allows people to call other users or facilities by name or title or function. Weighing less than 2 ounces (53.9 g), it contains a speaker, microphone, wireless radio and an OLED display that shows caller ID, text messages and alerts. The badge can be worn on a lanyard or with a universal clip to attach to the user's apparel or existing lanyard.



# VOCERA ORGANIZATIONAL CHART



## PROBLEM STATEMENT FOR BUDGET

Budgeting and planning are some of the main functions that make a small business successful. This project provides an idea about the importance and purpose of budget for any kind of business (small scale/large scale) and explains the budget model of Vocera Communication.

Budget must be prepared by keeping in mind all the rules and regulations of the company and abide by the statutory policies so as to achieve financial success.

# VOCERA CONTEXT

Vocera specializes in network-based software systems that provide voice communication for mobile personnel in hospital, retail, hospitality, government, manufacturing and other in-building environments with a dispersed workforce. It is a leading provider of mobile communication solutions focused on addressing the most critical communication challenges. The Vocera portfolio of solutions allows team members and groups to communicate instantly and effortlessly via voice, text, or other messaging. Vocera also connects clinicians to multiple alarm and alert systems in the patient environment.

## ➤ Health Care

The three major Health Care environments where Vocera's communication device is widely used is

**i. OR Environment:** The perioperative environment includes the pre-holding area, Operation Room suite, and the Post-Anesthesia Care Unit (PACU).

**ii. NICU Environment:** The Neonatal Intensive Care Unit (NICU) environment is an intensive care unit designed with special equipment to care for premature or seriously ill newborns.

**iii. ED Environment:** Emergency Departments are complex and dynamic working environments and is often referred to as a self-contained clinical unit where patients enter and are either admitted to the hospital or discharged home.

## ➤ Hospitality

In the Hospitality Environment, hands-free wireless voice solution allow hotel staff members to communicate directly, providing both staff members and guests with the help they need, quickly, efficiently and discreetly, all while maintaining a tranquil atmosphere. Vocera provides one-to-one voice and data communication between staff members as well as instant one-to-many (push-to-talk) capability, and can also interface with back-end systems, such as rapid response software. Plus, telephone users can call into Vocera and reach a Vocera Badge wearer and vice versa.

## ➤ Retail

Retail customers frequent stores that attend to their needs efficiently and graciously. The Vocera Communication solution has been deployed in boutique stores and large chains that focus on providing stellar customer service. Vocera helps retail employees communicate with onsite staff, such as stock clerks, and with other stores or warehouses to ensure the customer's request is addressed quickly, providing a better guest service experience.

## ➤ Nuclear Power

The nuclear power industry requires staff to be mobile across the power stations, constantly checking quality, stability, and performance of the equipment with which they work. This specialized work often requires the use of both hands to execute maintenance safely. The Vocera Communication System has been deployed in nuclear energy facilities to ensure workers can maintain contact with monitoring personnel while they work throughout the facility.

## ➤ Libraries

Libraries traditionally require quiet environments and staff to be in two places at once; at the reference desk and among the stacks assisting patrons. The Vocera Communication System boosts patron services in libraries by enabling librarians to take a hands-on approach to helping people find what they need quickly and effectively. It also eases the reference service load of librarians stationed at a desk, allowing them to focus more on servicing the needs of their patrons, and supports the highly flexible work environment.

# TECHNOLOGICAL CONTEXT

Vocera communication uses VOIP (Voice over Internet Protocol) technology to enable workers to use spoken commands to locate and communicate with various individuals and groups in a building.

The system incorporates "voice printing"; a biometric security enhancement that prevents unauthorized access and protects sensitive information.

# **BUDGET CONSTRAINT**

Cost being one among the three project constraints (time, scope, and cost) deals with the estimation of amount of money that will be required to complete the project. Cost encompasses many things such as: resources, labor rate for contractors, risk estimates, bills of materials etc.

The three challenges posed by project management cost constraints are:

## **1. Lack of Accountability:**

When money is no object, it results in lack of accountability for team members and their leaders. The project managers should be accountable for initial budget as the oversight from stakeholders usually arrives very late in the project process and often take negative tone on the return value on investment.

## **2. Cost centers as commodities:**

As companies of all sizes try to cut costs, “job costing” has become a way to gauge the value of internal human resources. Unfortunately, in some organizations, job costing allows department heads to set flexible rates for their team members that don’t always scale on the same cycles as projects. Strong project leaders can often find ways to offset rising personnel costs by developing their own profit centers. Sharing research and development tasks with other projects, increasing the book value of a team’s output, and outsourcing some team functions to less expensive contractors can help leaders keep costs in check.

## **3. Unexpected Budget Cuts:**

The worst possible scenarios for project managers include rounds of sudden budget cuts. Many project managers tasked with keeping projects on track during cost containment try to identify and eliminate non-critical physical resources before looking at staff cuts and some may ask team members to cover the duties of positions that have been left unfilled through attrition. In the worst cases, some internal job duties may be outsourced to independent contractors. Strong leaders find ways to meet project goals, even when suffering through budget cuts.

# VISION DOCUMENT

## Introduction:

Budgets are used in every organization to help them manage their money. Managers at all levels provide information used to construct an organization budget.

## Purpose:

The purpose of budget plan is to manage money by preparing an Expense plan on different departments within the company.

Identify the ways to decrease spending and increase income.

## Problem benefit and solution:

Problem: Analyze Vocera's budgeting model (Bottom-up) and activities for a successful Budgeting system considering all the organization constraints.

Solution: A budget model that Vocera uses in order to utilize its resources effectively and maintain Budget limits.

## Scope:

- Leverage workflow to streamline project initiation, budget planning and invoicing.
- Provide key decision makers with secure, role-based metrics tailored to their specific business requirements.
- HR communications for wellness and benefit.
- Manage each project with up to date estimates at completion versus budget reports. Receive notifications when thresholds are reached and budget overruns.

## Stakeholders:

To provide products and services that meet stakeholders and users' needs, you must identify and involve all stakeholders as part of the requirements-definition process. You must also identify the system users and ensure that the stakeholder community represents them adequately.

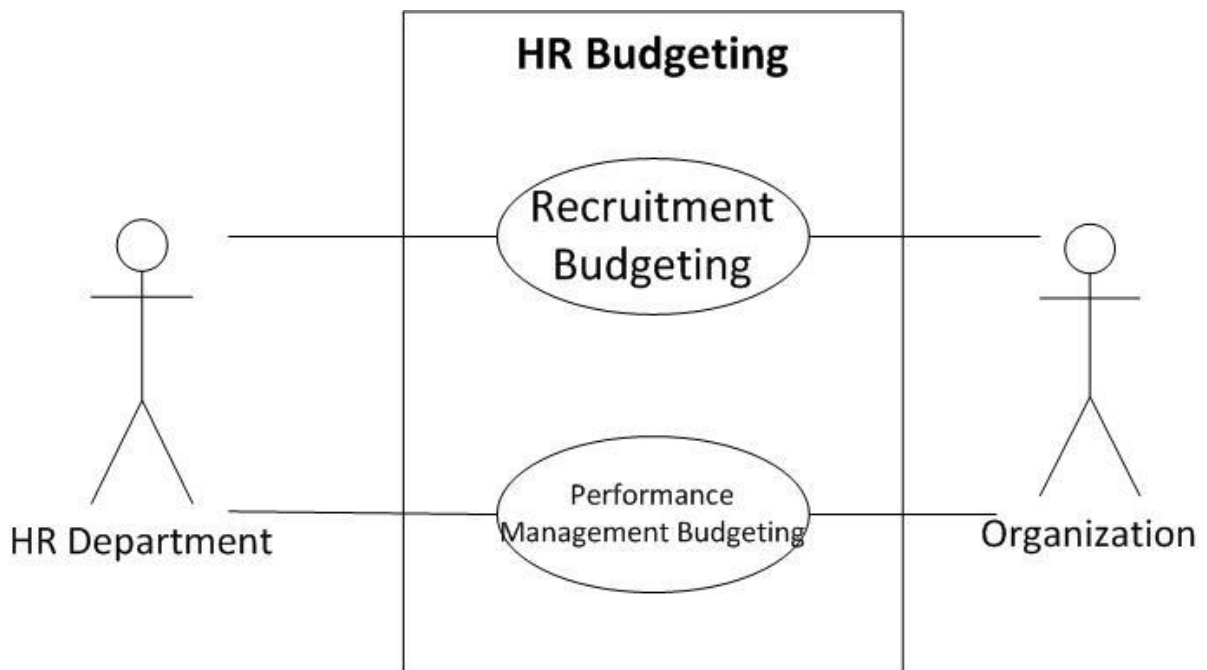
A stakeholder is an individual who is affected by or who can affect a project's outcome. Stakeholders shape projects in the early stages, ensuring resources are available to contribute to project success, and provide insight regarding the probable reaction to a project's outcome, which facilitates project adjustments when necessary to win organizational support. The roles of stakeholders change throughout a project life cycle. However, the willingness of stakeholders to perform the activities assigned to them during the project planning process greatly contributes to the success or failure of the project.

Apart from the employees of Vocera communications the other stakeholders are Aruba networks, UC-Davis.

# USE CASES

## ➤ HR Department

### i. HR High Level Use Case

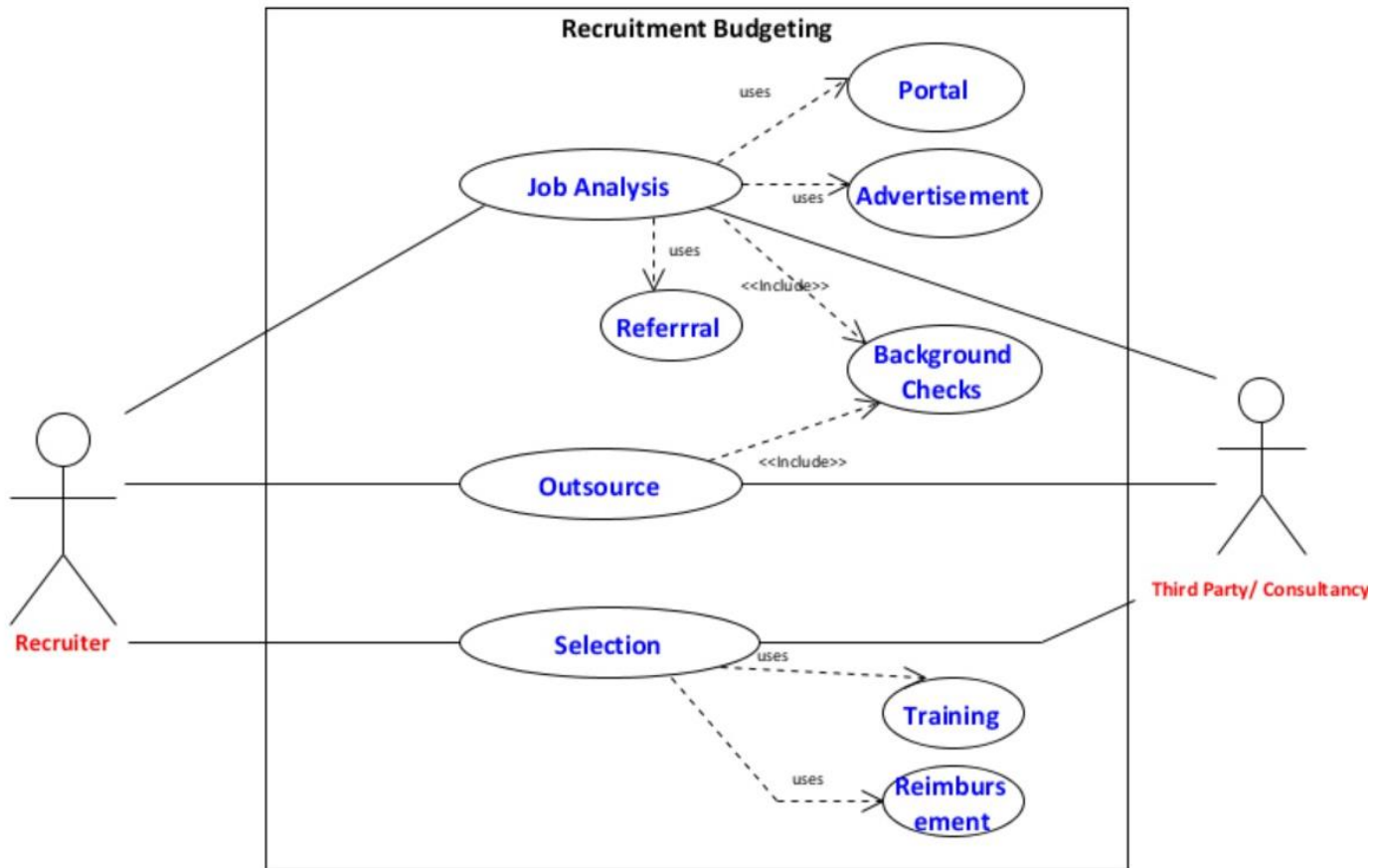


<b>Use Case ID</b>	UC01HR- Main
<b>Use Case Name</b>	Budget Requirements in HR Department
<b>Actors</b>	a. Primary Actor: HR Department/ HR Team b. Secondary Actor: Organization
<b>Description</b>	This use case describes the high level budget planning of HR Department in Bottom Up Approach of Vocera Communication.
<b>Trigger</b>	Budget Requirement of HR Department is to be submitted to higher



	authority for better budget planning for current fiscal year.
<b>Pre-conditions</b>	1. HR Department should exist in the organization.
<b>Post-conditions</b>	1. Budget of HR department is submitted to higher authority for approval and grant.
<b>Normal Flow</b>	<p>1. HR department head invites sub HR department like Recruitment and staffing division, Performance Management team and administration to submit their budget requirement for current fiscal year.</p> <p>2. Sub HR Department teams prepare their requirements on spreadsheet as per their work areas on which expenses will be incurred or they are likely to work according to their key result areas.</p> <p>3. Teams will submit their budgets to sub HR head and after his/her review, it will be presented to HR Head for approval.</p> <p>4. HR Head after review and analysis will submit to CEO/Higher officials to seek approval and grant.</p> <p>5. Once CEO checks funds and review it successfully, will approve and grant budget requirement to HR Head.</p>
<b>Alternative Flows</b>	1. If HR Head is not present/ position vacant then CEO himself takes the responsibility to initiate task and senior member is assigned responsibility to follow up and timely submission of budget requirements of HR department.
<b>Exception</b>	<p>1. If budget limits exceeds, or CEO and other stakeholders are not convinced by the HR budget requirement, they will not approve the budget.</p> <p>2. HR head will again be asked to review and modify the budget with proper details.</p>
<b>If Post-condition fails</b>	HR Department is asked to expedite the process of budget submission and given the new deadline to submit their budget.

## ii. Recruitment Budgeting



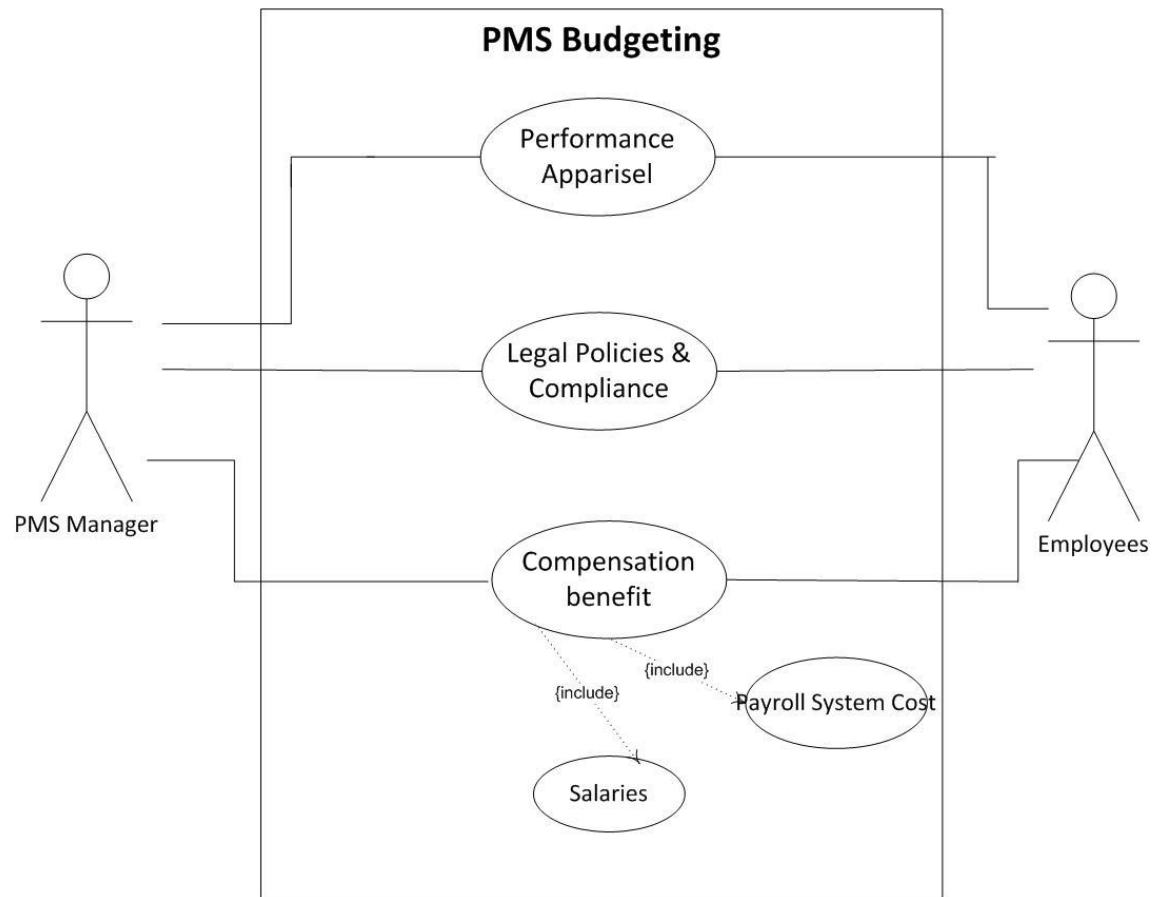
<b>Use Case ID</b>	UC02HR- R&S
<b>Use Case Name</b>	Budget Requirements in Recruitment & Staffing
<b>Actors</b>	a. Primary Actor: Recruiter b. Secondary Actor: Third Party Vendor/Consultancy
<b>Description</b>	This use case describes the budget planning in Recruitment & Staffing

	division of HR Department in Bottom Up Approach (Type of Approach in budget planning) of Vocera Communication.
<b>Trigger</b>	Employment Opportunities/ Requirement for Skilled Workers are created by Organization.
<b>Pre-conditions</b>	<ol style="list-style-type: none"> <li>1. HR Recruiter/ Hiring Manager should be present or already hired for hiring other staff.</li> <li>2. There should be vacant positions/ opening in the organization to accommodate new employees.</li> <li>3. Organization should have enough money to spend on new hire search and pay them the salaries.</li> </ol>
<b>Post-condition</b>	<ol style="list-style-type: none"> <li>1. New Employee is successfully hired based on required skills and competencies, available budget to spend on them, and policies of the organization.</li> <li>2. Vacant position/ opening for that particular hired should get closed once new employee joins the organization and no more money and time spent on search for that position.</li> </ol>
<b>Normal Flow</b>	<ol style="list-style-type: none"> <li>1. Position and required skills are described to recruiter or hiring manager in order to begin for appropriate candidate match so that position can be closed in least possible time with negotiable salary.</li> <li>2. <b>Job Analysis</b> is performed by primary actor through various sources: <ol style="list-style-type: none"> <li>2.a <b>Job Portal:</b> Recruitment Portals such as Monster/ Naukri / LinkedIn are used by Employer by paying some amount for specific time (year or month) with search access to Resume's/CV's etc. these sites.</li> <li>2.b <b>Advertisements:</b> For mass openings or fresher's and Intern intake walk-in interviews or job fair are conducted through advertisement in Newspapers/ Magazine's/ Pamphlets / Social Websites / Hoardings etc. which are done based on budget available and approval from senior management.</li> <li>2.c <b>Employee Referral:</b> Internal employees are asked to submit resumes in the database of their friends/ relatives/ family members who suits the criteria of desired job openings available in the organization. Internal Employee are then given the bonus or some</li> </ol> </li> </ol>

	<p>rewards if their referral joins and serve the organization for specific time.</p> <p>2.d <b>Background Checks:</b> BG Check is done to ensure the education verification, administrative criminal check, reference checks, skill assessment once new hire accepts the offer and is ready to join. External agency or any other third party does this.</p> <p>3. <b>Selection</b> process evolves once hire is onboard. New Hire Orientation and paperwork is done and below are the area where major cost/ budget planning is considered:</p> <p>3.a <b>Training:</b> New Employee is trained on product to work on; internal employees do knowledge sharing. External trainers are involved to impart and keep them updated with current technologies.</p> <p>3.b <b>Reimbursement:</b> Employee Travel Expenses/ Accommodation/ Food etc. are taken care of HR Department. Contracts with Hotels for low fare, events management, flight agents for travelling are done to minimize frequent traveler's expenditure.</p> <p>4. <b>Outsourcing</b> to external vendor/ consultancy is done for contractual employees who will be on third party payroll not the Vocera's Payroll. And also the background checks for new employee/interns are handed over to external agency who performs their duty as per contract rules and regulations.</p>
<b>Alternative Flow</b>	<p>1. If step 2.d fails i.e. background checks are not appropriate then process from step 2.a is repeated again to search for new hire.</p> <p>2. If new employee was hired through employee referral and leaves the organization before the specified time he/ she is not given the bonus or rewards.</p>
<b>If Post-condition fails</b>	<p>1. If recruiter's are unable to find suitable candidate for a position and not being able to close the position within the time and salary specified then below things are done:</p> <p>a. Special approvals are needed to increase the pay/ salary for that vacant position.</p> <p>b. Job Description modifications are done if possible.</p> <p>c. Position can go to Hold Stage for some time and after some period</p>

	again search begins. d. Some external vendor or consultancy is given the task for search of suitable candidate who satisfies complete criteria.
<b>Includes</b>	This use case includes Background check use case. This can be elaborated into a complete detailed use cases as described above.
<b>Frequency of Use</b>	This use case is used throughout the recruitment life cycle as long as the requirement of new hire/ vacant positions is there in the organization.

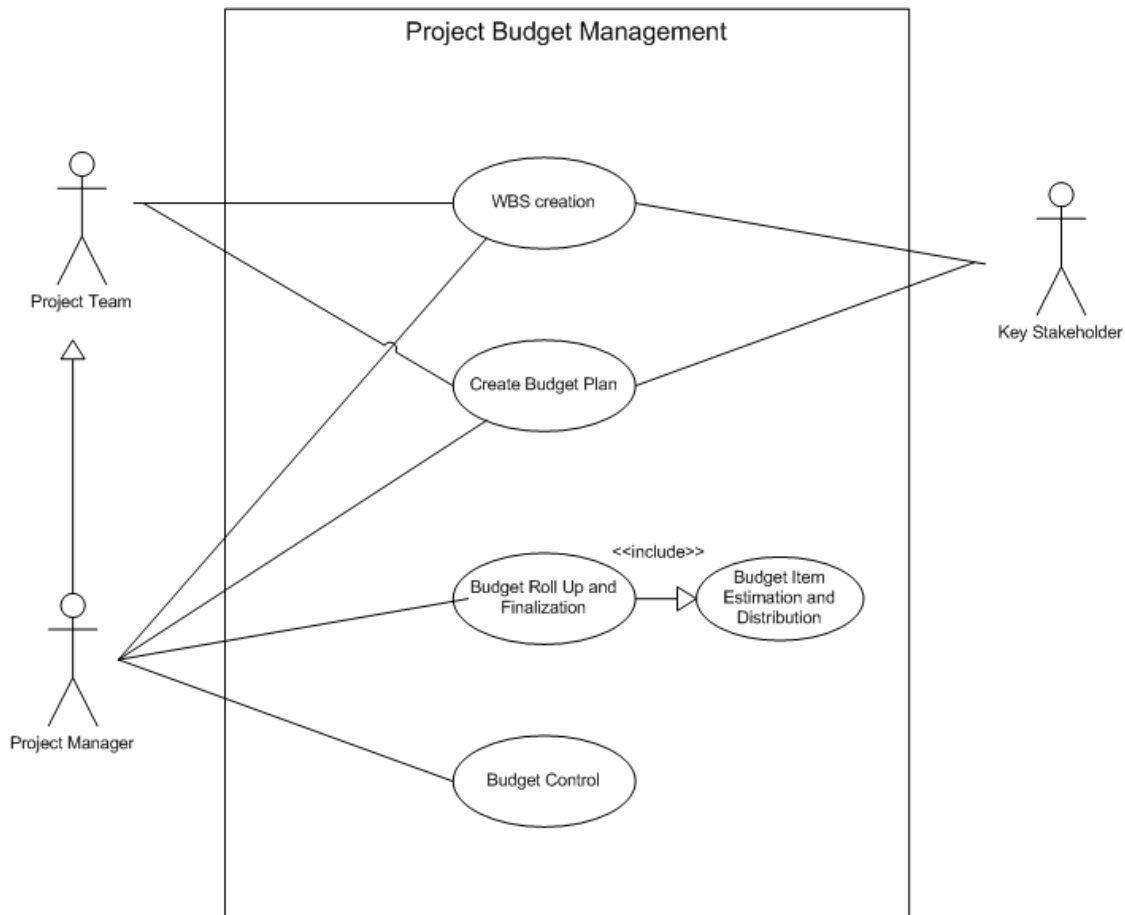
### iii. Performance Management System (PMS) Budgeting



<b>Use Case ID</b>	UC03HR-PMS
<b>Use Case Name</b>	Budget Requirements in PMS Division of HR Department
<b>Actors</b>	a. Primary Actor: PMS Manager b. Secondary Actor: Employees
<b>Description</b>	This use case describes budget planning of in PMS division of HR Department in Bottom Up Approach of Vocera Communication.

<b>Trigger</b>	Budget Requirement of PMS division is to be submitted to HR Head for better budget planning for current fiscal year.
<b>Pre-conditions</b>	1. PMS division- HR Department should exist in the organization.
<b>Post-conditions</b>	1. Budget of PMS division is submitted to HR department head for further process and approval.
<b>Normal Flow</b>	<p>1. PMS Manager along with the team members sits and plans for areas where budget requirement is there.</p> <p>2. Performance appraisal is one major area where they calculate the percentage annual increment for different grade for employee as per performance grading.</p> <p>3. Compensation benefits is second area where they calculate the cost required maintaining and license payroll system and paying monthly salary to people with bank.</p> <p>4. Also they keep budget measures on business policies such as travel policy, food policy, and accommodation policy for employees and other contractual, legal agreement as per legal laws and compliance that needs to be maintained with government and travel agents etc.</p>
<b>Exception</b>	1. If budget limits exceeds, or HR Head is not satisfied budget requirement, they will again be asked to review and modify the budget with proper details.
<b>If Post-condition fails</b>	PMS department is asked to make calculations an assessment fast to senior management approval and budget grants.

## ➤ Project Management



<b>Use case Id</b>	UC04-PBM
<b>Use Case Name</b>	Project Budget
<b>Actors</b>	a. Project Manager b. Team Members c. Stakeholders
<b>Trigger</b>	Requirement of new project
<b>Description</b>	Delivery of project on schedule and within the estimated budget that meets the quality of expectation of the beneficiaries.
<b>Pre-conditions</b>	1. Documenting high-level scope definition, objectives and commitments.

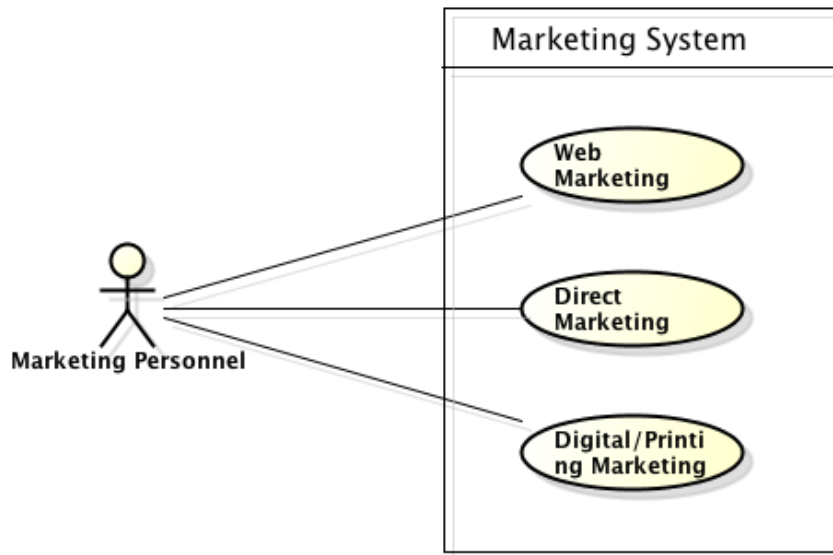


	<ol style="list-style-type: none"> <li>2. Proposal sign off.</li> <li>3. Identifying high-level resource (hardware, software, people) requirements.</li> <li>4. Team who is working on the task should be part of estimation.</li> </ol>
<b>Post-conditions</b>	Successful project goal delivery by estimating project costs within the approved budget i.e.; Estimated project budget should be within the approved budget.
<b>Normal Flow</b>	<ol style="list-style-type: none"> <li>1. Once project is decided, WBS is created by PM, team members and key stakeholders: <ol style="list-style-type: none"> <li>a. Work Breakdown Structure is a hierarchical representation of discrete products, activities, and tasks, subtasks that comprise a project. The lowest level of WBS is work package.</li> <li>b. Deals with scope of the project.</li> <li>c. Bottom up requires estimating individual activities and the cost of each input. The team members working on the task develop estimates of lowest level of WBS.</li> </ol> </li> <li>2. Budget Plan is created: <ol style="list-style-type: none"> <li>a. Once cost of tasks is estimated budget plan is created which is a financial estimate which helps the PM and stakeholders to assess direct and indirect costs like tracking hours worked, amount of materials used etc.</li> <li>b. It provides project life cycle cost, which is called as total cost of ownership.</li> </ol> </li> <li>3. Budget Item is added and estimated: <ol style="list-style-type: none"> <li>a. Adding Budget Items (which is building block of project budget, financial statement items grouped by cost or department) to project activity.</li> <li>b. Create budget details by estimating amounts by period for budget items and distribute the activity budget item across the period.</li> </ol> </li> <li>4. Sum up of activity budgets roll up to the project budget and then once the stakeholders approve the budget, it is finalized.</li> <li>5. Budget is controlled and monitored regularly by Project Manager.</li> </ol>

<p><b>Exception</b></p>	<p>Some reasons for project delay and cost overrun are:</p> <ul style="list-style-type: none"> <li>a. Design error: Wrong or insufficient representation of project deliverables</li> <li>c. Scope change: With scope change, project resources are diverted to activities that were not identified in the original project scope.</li> <li>d. Faulty contractual management system: Ambiguous contractual agreement with unclear clause can be of potential dispute, which would result in cost overrun.</li> </ul>
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## ➤ Marketing

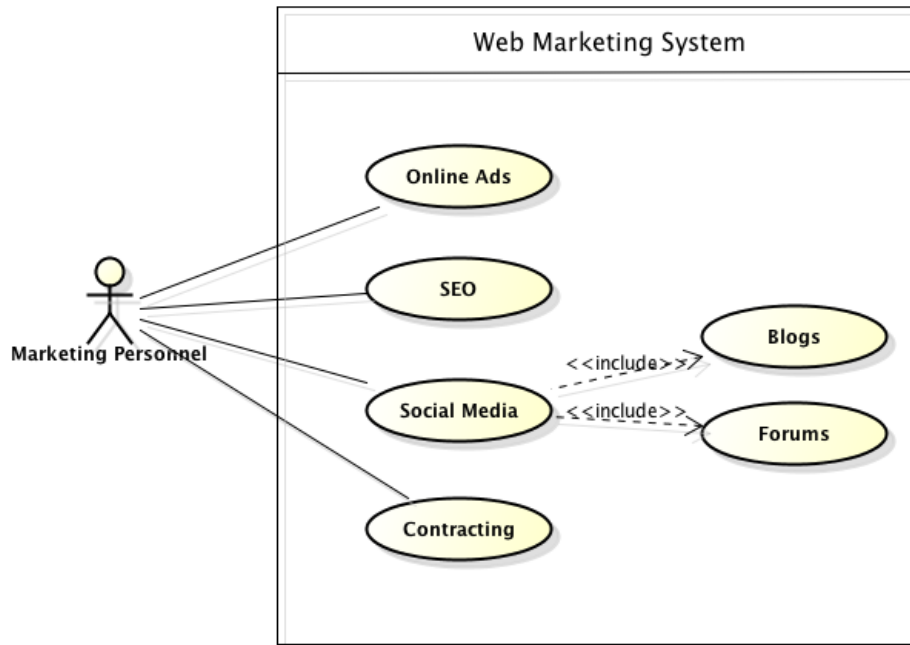
### i. Marketing High Level



<b>Use Case Name</b>	Marketing System High Level Use Case
<b>Actors</b>	a. Marketing Personnel
<b>Description</b>	This use case describes the high level budget planning in Marketing Department of Vocera Communication
<b>Trigger</b>	Budget Requirement of Marketing Department is to be submitted to higher authority for better budget planning for current fiscal year.
<b>Pre-conditions</b>	1. Marketing Department should exist in the organization.
<b>Post-</b>	1. Budget of Marketing department is submitted to higher

<b>conditions</b>	authority for approval and grant.
<b>Normal Flow</b>	<ol style="list-style-type: none"> <li>1. Marketing department will start planning their budget after reviewing through types of budget.</li> <li>2. They consider strategies for Web marketing and direct marketing for budget planning and formulation.</li> <li>3. After submission to senior management, they checks funds and review and then approve and grant budget requirement to Marketing manager.</li> </ol>
<b>Exception</b>	<ol style="list-style-type: none"> <li>1. If budget limits exceeds, or CEO are not convinced by the marketing requirement, they will not approve the budget.</li> <li>2. Marketing head will again be asked to review and modify the budget with proper details.</li> </ol>

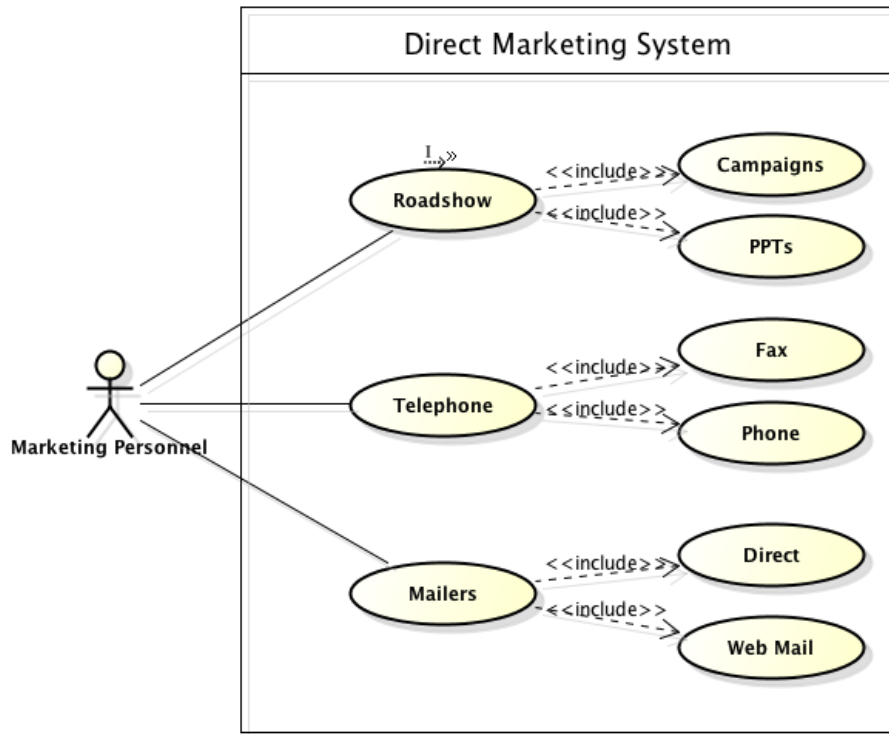
## ii. Web Marketing System



<b>Use Case ID</b>	UC06MAS- WMS
<b>Use Case Name</b>	Web marketing system
<b>Actors</b>	a. Marketing Personnel
<b>Description</b>	This use case describes budget planning of Web marketing System in marketing department.
<b>Trigger</b>	Budget Requirement of web marketing system is to be submitted by marketing manager for better marketing in order to increase sales.
<b>Pre-conditions</b>	1. Web marketing system should have a detailed collected data for marketing
<b>Post-conditions</b>	1. Budget for web marketing should have enough funds to do marketing.

<b>Normal Flow</b>	<ol style="list-style-type: none"> <li>1. Marketing manager will allocate staff to consider different type of web marketing activities.</li> <li>2. Lower level employees will consider key areas where budget is required or investment needs to be made on. Activities like Online Ads, Search engine Optimization (SEO), contracting are kept in mind while planning for marketing budget.</li> <li>3. After budget preparation, it is submitted to Marketing manager for review and further process.</li> </ol>
<b>Exception</b>	<ol style="list-style-type: none"> <li>1. If budget limits exceeds, or marketing head is not satisfied budget requirement, they will again be asked to review and modify the budget with proper details.</li> </ol>

### iii. Direct Marketing System:



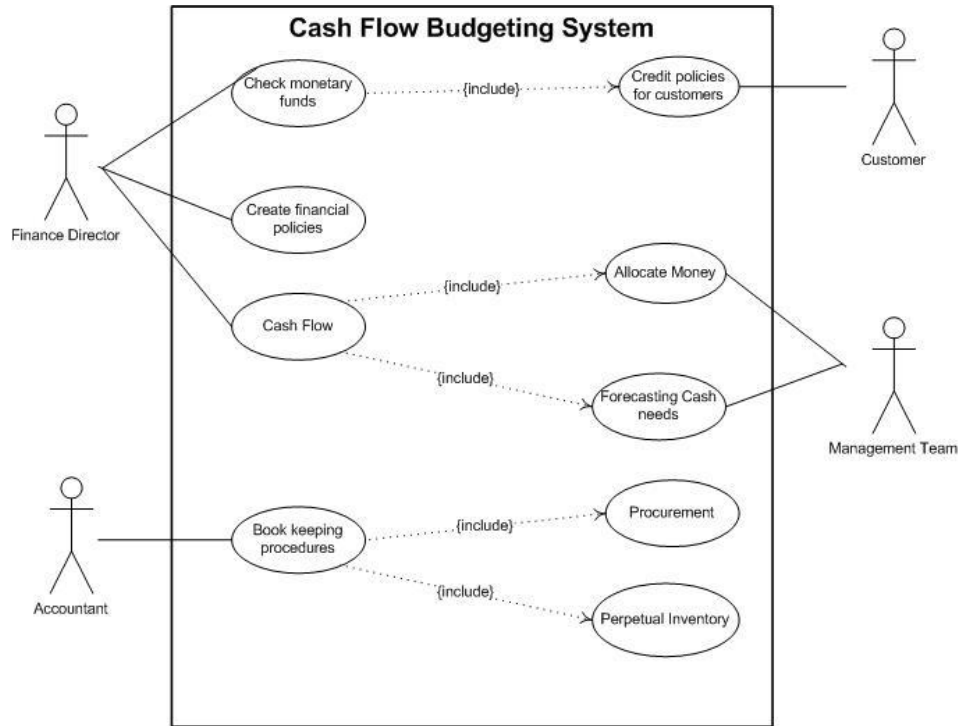
<b>Use Case ID</b>	UC06MAS- DMS
<b>Use Case Name</b>	Direct marketing system
<b>Actors</b>	a. Marketing Personnel
<b>Description</b>	This use case describes budget planning of Direct marketing System in marketing department.
<b>Trigger</b>	Budget Requirement of Direct marketing system is to be submitted by marketing manager for better marketing in order to increase sales.
<b>Pre-conditions</b>	Direct marketing system should have a detailed collected data for marketing
<b>Post-conditions</b>	Budget for Direct marketing should have enough funds for direct

	marketing activities
<b>Normal Flow</b>	<ol style="list-style-type: none"> <li>1. Marketing manager will allocate staff to consider different type of direct marketing activities.</li> <li>2. Lower level employees will consider key areas where budget is required or investment needs to be made on. Activities like Roadshows, Mailers, tele calling are kept in mind while planning for marketing budget.</li> <li>3. After budget preparation, it is submitted to Marketing manager for review and further process.</li> </ol>
<b>Exception</b>	<ol style="list-style-type: none"> <li>1. If budget limits exceeds, or marketing head is not satisfied budget requirement, they will again be asked to review and modify the budget with proper details.</li> </ol>



## ➤ Finance Department

### i. Cash Flow Use Case

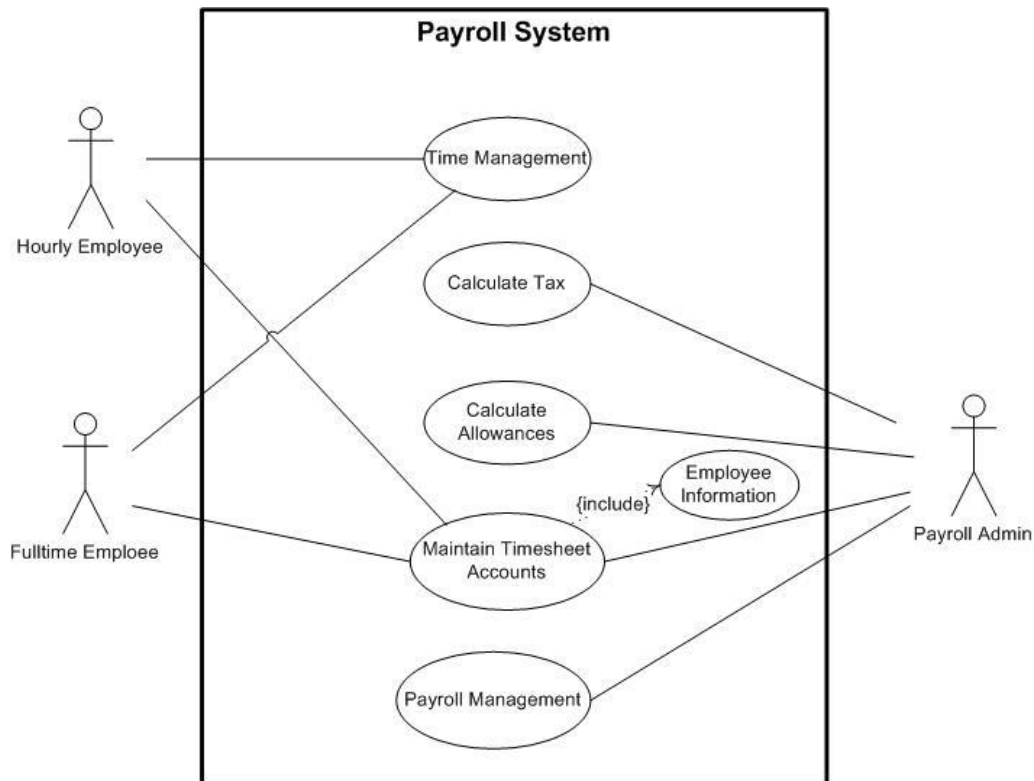


<b>Use Case ID</b>	UC07FA- CFM
<b>Use Case Name</b>	Cash Flow Management System
<b>Actors</b>	a. Finance Director b. Accountant c. Management Team d. Customer
<b>Description</b>	This use case describes the allocation of dollar amount to different teams/departments in order to initiate different projects. It also describes management of inventories done by the accountant.
<b>Trigger</b>	1. Beginning of new financial quarter. 2. Initiating a new project in middle of a quarter.

<b>Pre-conditions</b>	<ol style="list-style-type: none"> <li>1. Company should have enough funds to allocate to different teams/departments.</li> <li>2. Every team should have a budget ready to propose to the finance director so that it can go further to the management team for the approval.</li> <li>3. A customer should fit into the policies required to gain the benefit of the credit allocation.</li> <li>4. A team that is exceeding the budget or requires more amounts than the allocated amount must have their expenses documented.</li> </ol>
<b>Post-conditions</b>	<ol style="list-style-type: none"> <li>1. Every team/department should be allocated with the requested amount.</li> <li>2. A team/project extending the budget for its completion should get the requested amount.</li> <li>3. A customer gets the benefits.</li> </ol>
<b>Normal Flow</b>	<ol style="list-style-type: none"> <li>1. Each team/department prepares a proposal of the budget/cash needed for the project.</li> <li>2. Finance director checks company's funds, waits for the management team's approval.</li> <li>3. Finance director allocates the requested budget.</li> <li>4. Finance director checks funds so as to provide credit allocations to the customers conditionally they should fit in to the policies of the company for the credit to be sanctioned.</li> <li>5. Finance director also keeps a forecast of an over budgeting of a team/department.</li> <li>6. Finance director also discusses the over budgeting with the management team and helps to approve the over budget.</li> <li>7. Finance director is responsible for creating the financial policies of the company and also considers the federal, state rules and regulations while preparing them</li> <li>8. The accountant manages bookkeeping procedures.</li> <li>9. The accountant maintains the list of the inventories in the company.</li> <li>10. The accountant also maintains the list of the materials to be procured.</li> </ol>
<b>Exception /if Post</b>	<ol style="list-style-type: none"> <li>1. If a team demands for more amount than the company has.</li> </ol>

<b>condition fails</b>	<ul style="list-style-type: none"><li>2. If the company doesn't have enough funds to allocate.</li><li>3. If the company doesn't have enough money to provide credit to the customer.</li></ul>
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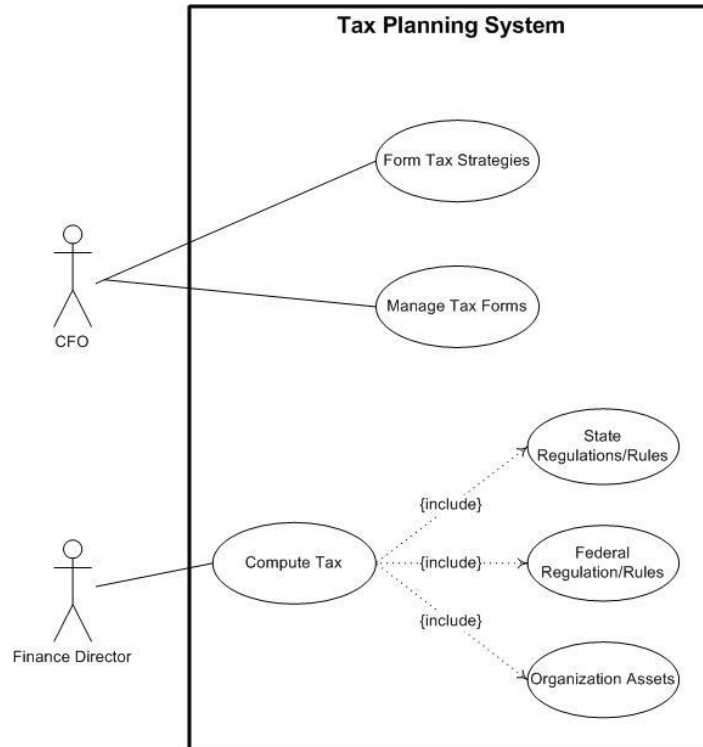
## ii. Payroll System



<b>Use Case ID</b>	UC08FA- Payroll
<b>Use Case Name</b>	Payroll System
<b>Actors</b>	a. Payroll Admin b. Salaried Employee c. Hourly employee
<b>Description</b>	This use case describes the how the payroll management of the company is done by the payroll admin on basis of two types of employees, i.e., Hourly and Full-Time.
<b>Trigger</b>	To run the payroll for the entire employees biweekly.
<b>Pre-conditions</b>	1. An employee must manage his/her time in order to get the complete salary.

	<ol style="list-style-type: none"> <li>2. An employee whether an hourly employee or full time employee must fill the timesheets on time.</li> <li>3. An employee must keep State and Federal W-4 forms and other formalities ready so that Payroll admin can calculate tax deductions and allowances accordingly.</li> <li>4. An employee must submit the details about his bank accounts in order to receive salary as direct deposit / he can also choose check as an option to receive the salary.</li> </ol>
<b>Post-conditions</b>	<ol style="list-style-type: none"> <li>1. Every employee in the company gets salary on time.</li> <li>2. Every employee gets proper amount of salary after deductions of tax and allowances.</li> </ol>
<b>Normal Flow</b>	<ol style="list-style-type: none"> <li>1. Payroll admin asks a new employee before joining to fill up some forms, e.g., State, Federal W4, Bank account information etc.,</li> <li>2. After the payroll admin confirms the forms filled by the employees are correct, they provide the username and password of the portal wherein the employees are suppose to login and fill up the timesheet.</li> <li>3. All the employees of the company i.e., hourly or salaried must fill up the time sheet before deadline.</li> <li>4. Payroll admin checks the timesheets filled up by the employees time-to-time and if finds any mistakes conveys the manager of that employee about it. Manager further asks the employee to recheck the timesheet.</li> <li>5. Payroll admin deducts the tax and allowances and calculates a proper amount to be salaried to the each employee.</li> <li>6. After the amount is calculated, the salary is credited in to the employees' bank accounts.</li> </ol>
<b>Exception/ if Post-condition fails</b>	<ol style="list-style-type: none"> <li>1. If Payroll Admin do not see the forms required, filled up by any employee.</li> <li>2. If the company is running out of funds to provide complete salary to its' employees.</li> <li>3. If any employee forgets to fill up the timesheet on time and leaves it empty till some time frame.</li> </ol>
<b>Frequency of Use</b>	<p>This use case is used during the entire life of the company, as long as it has a single employee left. No company can work well without providing healthy salary to its employees.</p>

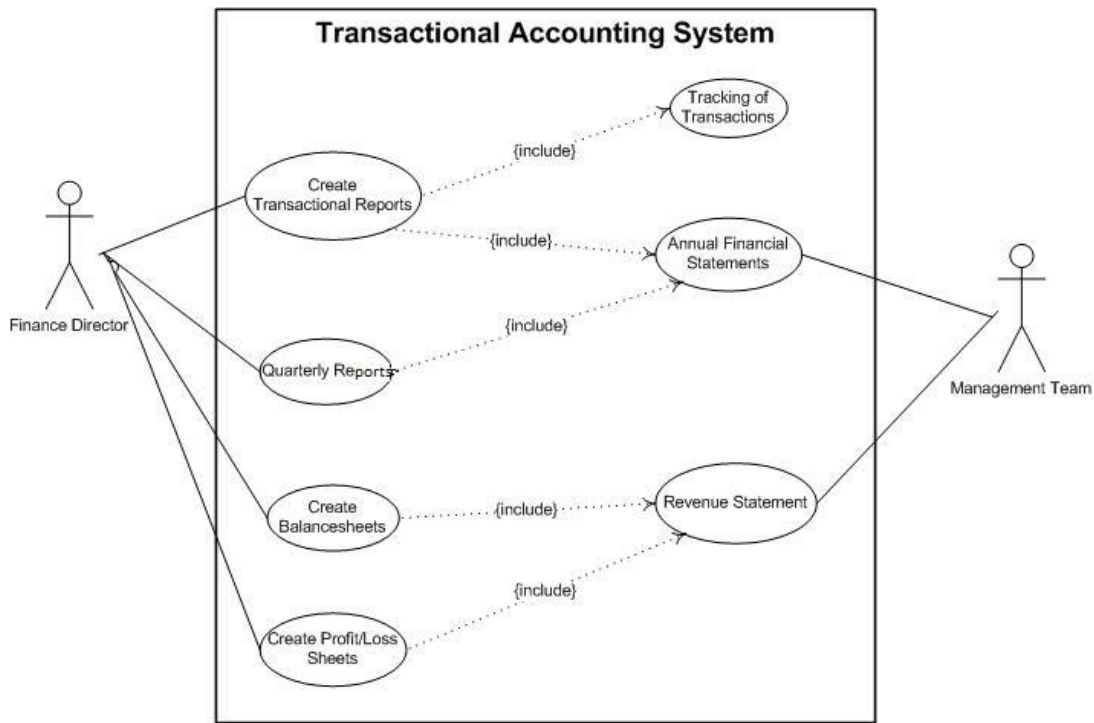
### iii. Tax Planning System



<b>Use Case ID</b>	UC09FA- TPS
<b>Use Case Name</b>	Tax Planning System
<b>Actors</b>	a. CFO b. Finance Director
<b>Description</b>	This use case describes the how the tax of the company is planned in order to provide information to the government with the company's assets' records, tax payments, etc.
<b>Trigger</b>	To pay tax to the government and declare the belongings and assets.
<b>Pre-conditions</b>	1. The company should have the records and documents about its assets, belongings and properties 2. CFO should be prepared with the documentations of the tax strategies that they will be using in order to pay tax to the

	<p>government.</p> <p>3. The required tax forms should be collected from the government authority.</p> <p>4. Presence of sources providing accurate knowledge of state rules/regulations, federal rules/regulations.</p>
<b>Post-conditions</b>	<p>1. Submission of the tax documents, declaration of assets forms successfully to the government.</p> <p>2. Approval of those documents.</p> <p>3. Legal Payment of taxes and tax returns.</p>
<b>Normal Flow</b>	<p>1. CFO prepares the tax strategies of the company, in order to present it to the management team of the company.</p> <p>2. Management team approves it.</p> <p>3. CFO manages the collected tax forms and other forms, which help in finishing the formalities of the company from the government point of view.</p> <p>4. Finance director collects the information about the state rules/regulations, Federal rules/regulations. As this company has branches at different locations worldwide, the federal and state tax policies change respectively.</p> <p>5. Finance Director collects the records and documents stating the assets and properties of the company at this location.</p>
<b>Exception/If Post Condition fails</b>	<p>1. Disapproval of the documents by the government authority that were submitted by the company.</p>
<b>Frequency of Use</b>	<p>This use case is used during the initial period of the company. It stays same unless there are some changes in the state/federal rules/regulations.</p>

### iii. Transactional Accounting System

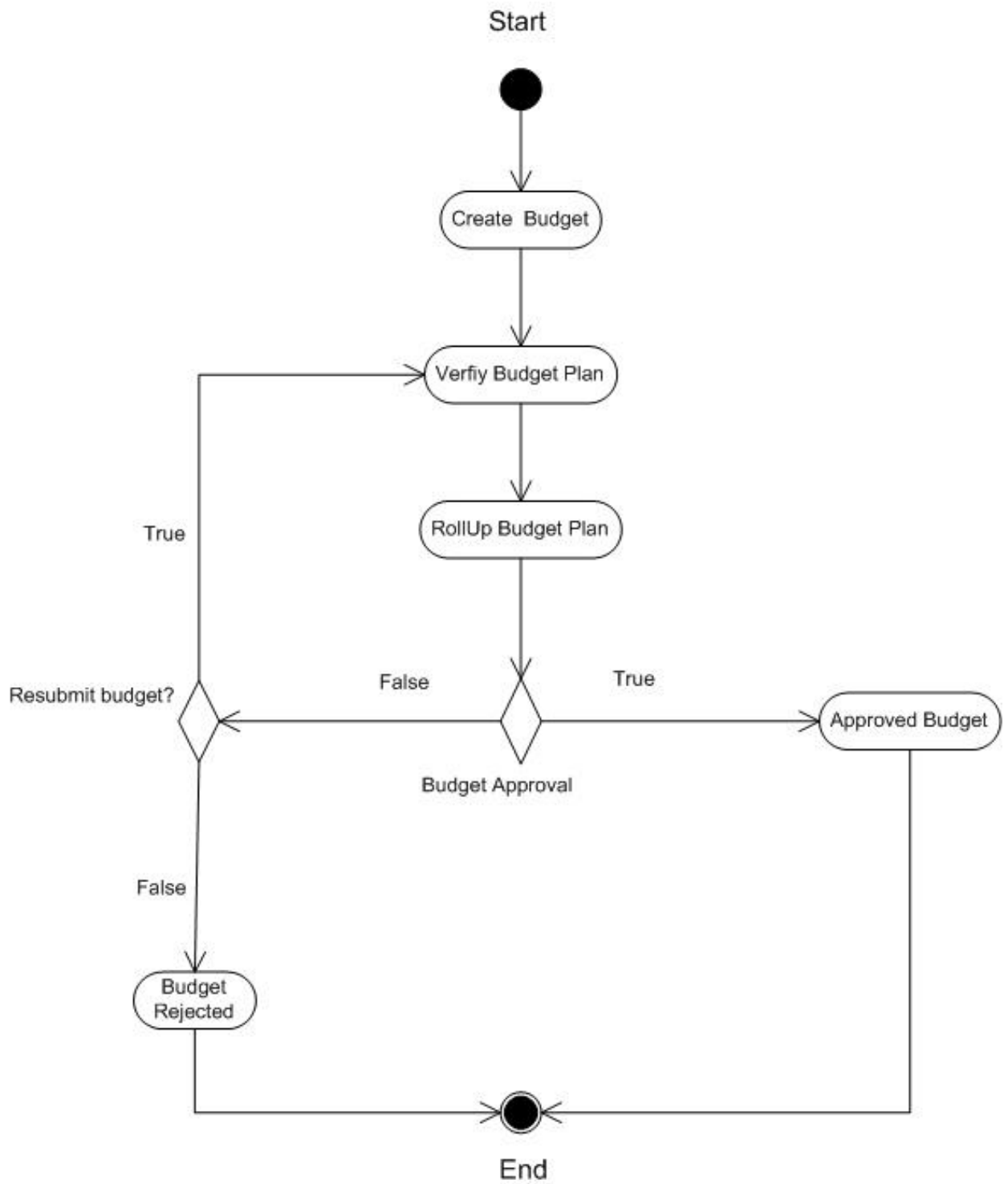


<b>Use Case ID</b>	UC10FA- TAS
<b>Use Case Name</b>	Transactional Accounting System
<b>Actors</b>	a. Management Team b. Finance Director
<b>Description</b>	This use case describes the how the company keeps a track of it's financial transactions. It also describes quarterly results, annual financial statements, revenue statements, etc.
<b>Trigger</b>	End of a quarter in the company. End of a fiscal year in the company.
<b>Pre-conditions</b>	1. Availability of results of all the quarters in order to calculate annual statements. 2. Availability of records of all the transactions to prepare the transactional report.

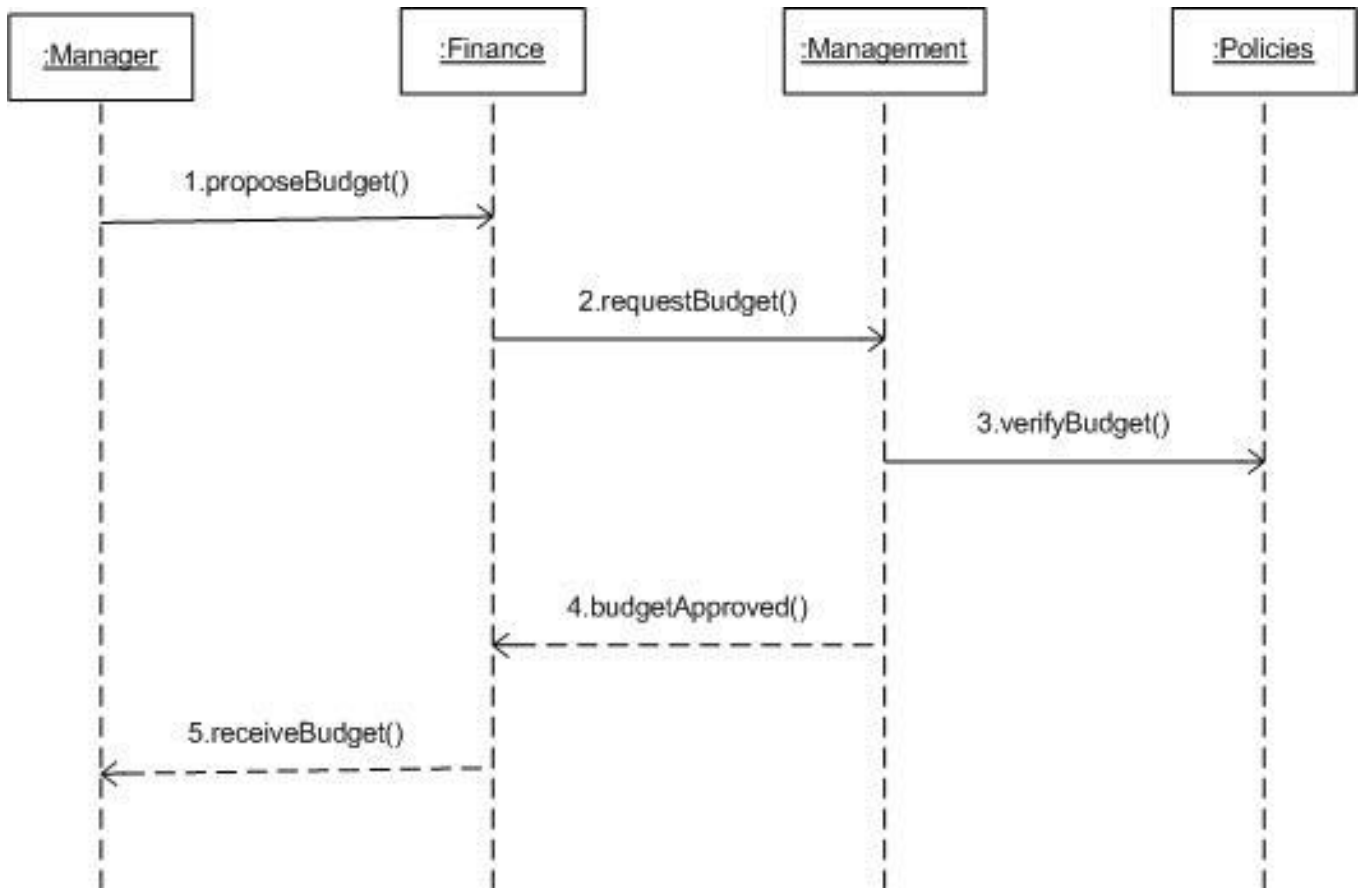


	3. Records of expenses and incomes of the company to create profit/loss sheet.
<b>Post-conditions</b>	1. Calculation of revenue is successfully completed. 2. Balance sheet is available.
<b>Flow of events</b>	1. Finance director checks the records of the financial transactions made by the company and the annual financial statement to prepare the transactional report. 2. Management team declares the annual financial statement. 3. Finance Director calculates the Quarter Results document and submits to the management team. 4. Finance Director then checks the Revenue of the company and then creates the balance sheet accordingly. 5. Finance Director also calculates the profit and loss of the company and documents it to present it to the management team.
<b>Exception/if Post condition fails</b>	1. If there are no records of previous transactions maintained in the system.
<b>Frequency of Use</b>	This use case is used during the end of each quarter and during end of each year as well. This helps in calculating the revenue and annual financial statements of the company accurately.

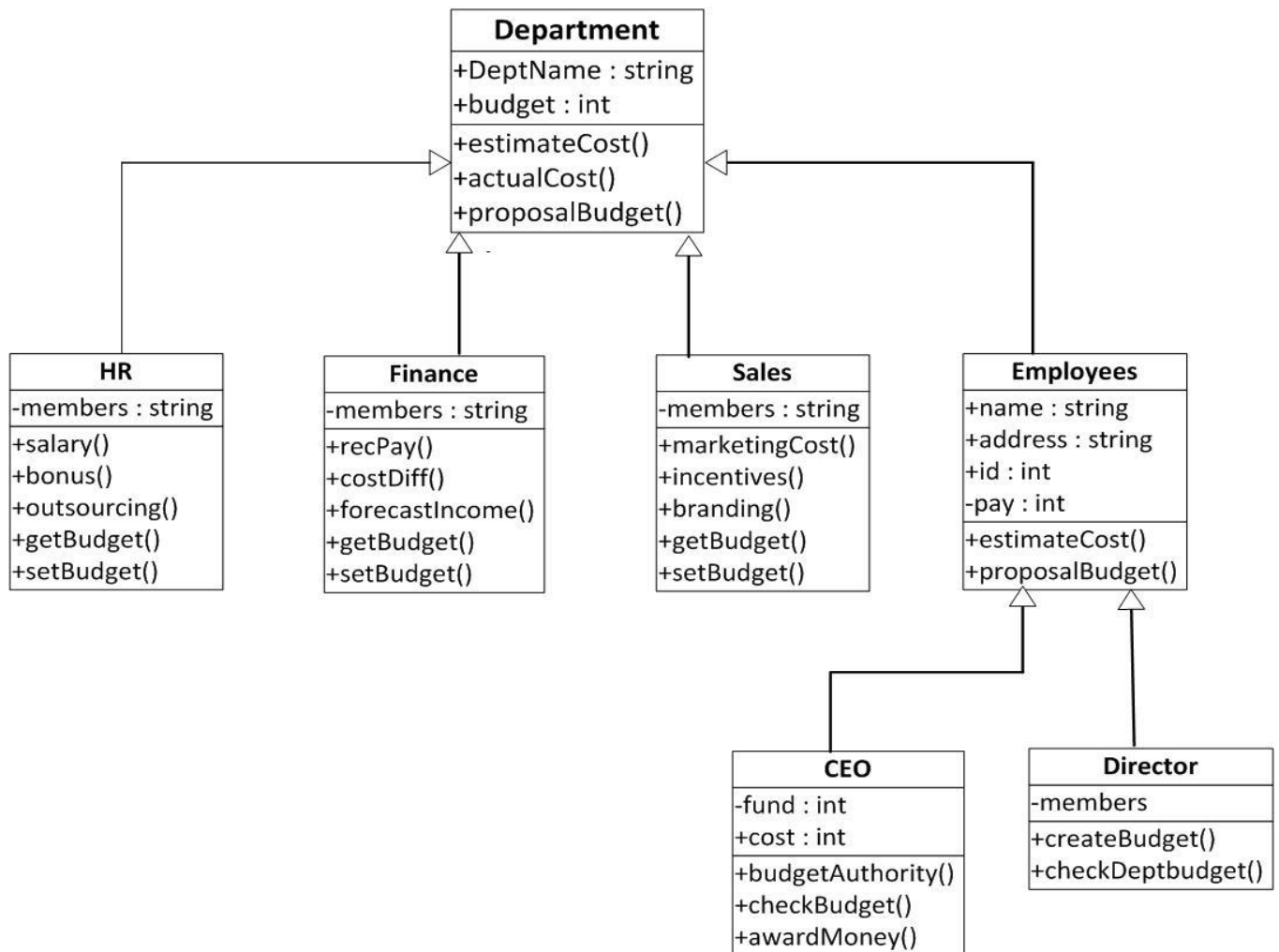
# Activity Diagram



## Sequence Diagram



# Class Diagram



# Interview Question & Answers

1. What kind of budgeting system does your company have?

A. Vocera communications is a startup company, here we use bottom up approach for budgeting.

2. What is your Budget Cycle?

A. Annual budget, we plan our budget from September to December and follow that from January to January

3. What should a budget cover?

A. Anything and everything a dollar can relate to.

4. How do u start a Budget?

A. Since it is a bottom up approach, all departments actively participate in the process of budgeting. Each department based on the previous year year's estimates start the budget processing and creates a budget suitable for them and submits to the top management.

5. Who are the Key Players in approval process of budget?

A. All the management throughout and since we use bottom up method, managers of all departments and each individual are also key players.

6. Objectives you keep in mind while planning budget for your team/company?

A. The main objective is to prepare a budget that is realistic and helps completing a particular project/goal.

7. Tools used for budget modeling and analysis?

A. In Vocera we have no particular tool for budgeting, but we use a tool called TM1, which is similar to excel interface for recording purposes.

8. Obstacles/Challenges in Budget Process/Approval/Implementation.

A. In this method of budgeting that we use, we don't face many obstacles because each department prepares a through budget and it is revived at all possible levels of authority. Moreover, our company has never over budgeted.

9. What are the impacts of Budget on Incentives/Salary/Bonus/Company Policies/Recruitment/Training/Cost cutting etc.?

A. Based on all the above-mentioned things budget is formed. It is not the other way around. We have always been left with good amount of monetary funds.

10. How do you analyze the budget once it is set and steps to be taken into consideration for next year budget planning and modeling?

A. At the beginning of new budget year we go through previous year's budget and review anything that was missed during budgeting but added later and try to rectify mistakes if any that were found in the previous budget. Always the previous year's budget stands as our base for current year's budgeting and we take it from there.

11. What are the factors affecting Budget?

A. The main factor that affect budget is people i.e. the employees. Other things that affect budget are sales of that particular year, people supporting other aspects like marketing etc.

12. What do u do when you meet with budget crisis?

A. In Vocera we never had to face that situation.

13. Can budget be changed in between a project is going on?

A. A budget cannot be changed but if there is a need for special budget that was not mentioned in budget plan, based on the priority and importance of the budget we get it approved from the higher management.

14. What happens if you overspend on a budget?

A. Sometimes we have to spend more than what we budgeted, for example last year we needed to install SAP in between the financial year which was a very critical need to a project, but we could not say NO for the installation because we don't have budget for it, there are few thing where we have to spend money.

15. How do you make adjustments in a budget?

A. Once the Budget is set for a year and got approved that is it; no adjustments are made to that. But as mentioned before if there were any unexpected expenses we note that and keep in mind while preparing next year's budget.

16. Can you tell us something about emergency funds and how has your company been using it till now?

A. We do not have a concept of emergency fund at Vocera.

17. How does a change in tax policy by government would affect your budget?

What difference would you be seeing if your company was in some other state of US?

A. We use the concept of ADJUSTED EBITDA, EBITDA means Earnings Before Interest Taxes Depreciation Amortization.

18. Once a budget is implemented, how do you keep a track of all the incurring expenses?(do you keep records in terms of ledgers?)

A. We use our TM1 system and SAP. The data in SAP get loaded to TM1.

19. How many budget scenarios do you prepare?

A. We have 2 budget scenarios:

- 1) Internal budget where in the numbers are what we are trying to achieve.
- 2) Given to Higher management and Board of Directors, these numbers are easier to hit.

20. What is the key to a successful budget?

A. If we are able to achieve the balance of the difference between what we want the numbers to be and what we get then the budget is successful.

21. Do you crosscheck budget once it is finalized?

A. The Budget once prepared gets reviewed all the way through the management.

22. How do you measure a company's performance based on budget?

A. If the estimated budget keeps changing it is not meaningful and it means that we have not met our goal, which we established in the beginning of budget. When goals are not achieved we fail and so does the performance.



# Risk

Risk is the level of uncertainty. When we estimate what it cost to invest in a given project and what are its benefits in the future, can be defined as uncertainty. Uncertainty can arise from many different sources depending on the type of investment being made, also the circumstances, market scenario and industry.

## Risk Management:

The term 'Risk Management' describes a particular approach to identifying risks (threats and opportunities) and managing them within corporate resources.

Risks affecting organizations can have consequences in terms of economic performance and professional reputation, as well as environmental, safety and societal outcomes. Therefore, managing risk effectively helps organizations to perform well in an environment full of uncertainty.

Risk management ensures that an organization identifies and understands the risks to which it is exposed. Risk management also guarantees that the organization creates and implements an effective plan to prevent losses or reduce the impact if a loss occurs.

A risk management plan includes strategies and techniques for recognizing and confronting these threats. Good risk management doesn't have to be expensive or time consuming; it may be as uncomplicated as answering these three questions:

- What can go wrong?
- What will we do, both to prevent the harm from occurring and in response to the harm or loss?
- If something happens, how will we pay for it?

Effective budgeting is a vital component of sound risk management. A budget should provide an accurate forecast of anticipated revenues and a roadmap for appropriate spending. When the board and staff have a common understanding of the challenges and opportunities facing the organization, as well as its strengths and weaknesses, they will be well equipped to develop budgets that guide resources to accomplish the vision and mission of the company. When budgets are developed without care and planning, the company reduces its opportunities for long-term success. Examine your budget with the following questions in mind:

- Does the budget reflect the mission and goals of the organization? Are critical priorities supported with adequate financial resources?
- If scaling back is required due to diminishing resources, have thoughtful selections been made about which projects to trim? Did the board and finance committee have the information needed to consider and approve necessary program cuts? Have contingencies been established in the event that revenues rebound?
- Was the budgeting process inclusive? What additional help is needed from those involved in the process as the organization reaches the mid-point of its fiscal year?
- What changes in the budgeting process should be considered for the next go-around?

## Risk Assessment:

Risk assessment is a systematic process for identifying and evaluating events (i.e., possible risks and opportunities) that could affect the achievement of objectives, positively or negatively. Such events can be identified in the external environment (e.g., economic trends, regulatory landscape, and competition) and within an organization's internal environment (e.g., people, process, and infrastructure). When these events intersect with an organization's objectives—or can be predicted to do so—they become risks.

Risk assessment is intended to provide management with a view of events that could impact the achievement of objectives. It is best integrated into existing management processes and should be conducted using a top-down approach that is complemented by a bottom-up assessment process.

Relevant senior officers using the budget risk assessment framework assessed each budget saving proposal. The Principal Risk Officer and the Strategic Financial Planning Manager to ensure that the definitions were applied consistently then moderated the assessments. The information from the moderated assessments has been used to inform the budget decision-making process. Risk that budget elements will deviate from the estimate. Examples: deviations in unit prices, deviations in quantities.

### Steps involved in risk assessment process

1. Validation of base conditions: Collect information on scope, schedule, and budget

2. Risk identification and quantification: Prepare long list of potential risks to major component of project
3. Modeling: Identify appropriate assessment method
4. Implementation/Monitoring: Management approvals
5. Risk Mitigation Planning (RMP): Identify unacceptable risks
6. Discussion/ Review

Each cost estimate line item and each risk item is assigned a probability curve. Evaluating the behavior of each risk item chooses probability curves.

## Minutes of Meeting

MOM	
Date	9/10/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Shweta Verdia
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Rakesh Reddy Kommidi Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Discussed various ideas presented by all group members on Project Title</li> <li>• Discussed on the company which we can interview</li> </ul>
Action items	Each Group member will research on the topic and will discuss and finalize on the project topic next week

MOM	
Date	9/17/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Shweta Verdia
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Harika Katamaneni Rakesh Reddy Kommidi Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Discussed and finalized the project topic to start our project</li> <li>• Finalized on the company which we can interview</li> </ul>
Action items	<ul style="list-style-type: none"> <li>• Each Group member will start basic study on the project topic</li> </ul>

MOM	
Date	9/24/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Shweta Verdia
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Rakesh Reddy Kommidi Harika Katamaneni Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Finalized the date to interview the company “Vocera Communication”</li> <li>• Decided on the content of the report and task assigned to each team member</li> </ul>
Action items	Each Group member will submit this part of the report content assigned will review them after 2 weeks

MOM	
Date	10/01/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Shweta Verdia
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Rakesh Reddy Kommidi Harika Katamaneni Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Scheduled the interview in Vocera Communication i.e. timings and decided on members who will be going to take interview regarding their budgeting</li> <li>• Discussed on the interview question to be asked and finalized the questions</li> </ul>
Action items	Each Group member will submit this part of the report content assigned next week

MOM	
Date	10/08/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Shweta Verdia
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Rakesh Reddy Kommidi Harika Katamaneni Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Review the project progress</li> <li>• Decided on the content of the report and task assigned to each team member and suggestion to change if content was not relevant</li> </ul>
Action items	Each member were asked to study about Vocera Communication details

MOM	
Date	10/22/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Shweta Verdia
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Rakesh Reddy Kommidi Harika Katamaneni Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Discuss the project progress</li> <li>• Outline the contents of the project.</li> <li>• Discussion on High level Use Cases and problem statement</li> <li>• Assign tasks to each team members on preparing use case</li> </ul>
Action items	Each Group member will submit task assigned next week for discussion and project to move on forward

MOM	
Date	10/29/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Bhoomi Patel
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Rakesh Reddy Kommidi Harika Katamaneni Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Discuss the project progress</li> <li>• Reviewing Use Cases</li> <li>• Discussed on Problem Statement</li> <li>• Review and modify use case diagram</li> </ul>
Action items	Each Group member will submit their part next week

MOM	
Date	11/05/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Anusha Kurapati
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Rakesh Reddy Kommidi Harika Katamaneni Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Review on Use cases</li> <li>• Discussion on Use cases (Sales and Accounting Department)</li> <li>• Assign tasks to each team members on remaining task</li> </ul>
Action items	Each Group member should present finalized use cases with diagram and description for further discussion

MOM	
Date	11/12/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Harika Katamaneni
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Rakesh Reddy Kommidi Harika Katamaneni Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Discuss on the Vision Document</li> <li>• Review the project report content prepared so far</li> <li>• Prepared the vision document</li> </ul>
Action items	All team members are to complete their pending task assigned previously

MOM	
Date	11/19/2013
Time	10 a.m. to 12 p.m. and 1.45 p.m. to 2.45 p.m.
Prepared By	Aparna Anandapadmanabhan
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Rakesh Reddy Kommidi Harika Katamaneni Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Finalized on use cases with description and remove errors</li> <li>• Discussion on Activity Diagram, Sequence diagrams</li> <li>• Discussion on presentation and final review of documentation</li> </ul>
Action items	All team members are to review their part completely and remove errors and mistake if any.



MOM	
Date	11/26/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Shweta Verdia
Attendees	Anusha Kurapati Harika Katamaneni Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Discussed on Risk Assessment of Budgeting</li> <li>• Review of functional and non-functional requirements</li> <li>• Discussion on presentation content</li> </ul>
Action items	All team members were assigned task for final report submission with editing.

MOM	
Date	12/02/2013
Time	1.45 p.m. to 2.45 p.m.
Prepared By	Shweta Verdia
Attendees	Anusha Kurapati Aparna Anandapadmanabhan Bhoomi Patel Rakesh Reddy Kommidi Harika Katamaneni Shweta Verdia
Agenda	<ul style="list-style-type: none"> <li>• Finalized on Presentation Content</li> <li>• Review on content for finalized report</li> </ul>
Action items	All team members will prepare their part of slides.

# Glossary

## **A**

### **Accounting Period**

A period of time (e.g., one month, one year) where the County determines its financial position and results of operations.

### **Allotment**

Amount of funds allocated for expenditure in a particular period of time, generally a fiscal quarter.

### **Accountant**

Someone whose job is to keep the financial records of a business or person.

### **Annual Budget**

Any budget that is prepared for a 12-month period. An annual budget outlines both the income and expenditures that are expected to be received and paid over the coming year. Individuals, corporations, governments and various other types of organizations use annual budgets.

### **Activity**

A specific and distinguishable line of work performed within a program; the most basic component of service delivery for each County agency and its budget.

### **Activity Diagram**

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency.

## **B**

### **Budgeting**

An estimate, often itemized, of expected income and expense for a given period in the future.

### **Budget variances**

A periodic measure used by governments, corporations or individuals to quantify the difference between budgeted and actual figures for a particular accounting category.

**Baseline**

A snapshot; a position or situation that is recorded. Although the position may be updated later, the baseline remains unchanged and available as a reminder of the original state and as a comparison against the current position. Products that have passed their quality checks and are approved are base lined products. Anything 'base lined' should be under version control in configuration management and 'frozen', i.e. no changes to that version are allowed.

**C****Capital budgets**

A statement of proposed financial expenditures, especially for schools, parks, and other municipal facilities, and often including a plan for financing.

**Class Diagram**

In software engineering, a class diagram in the Unified Modeling Language is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations, and the relationships among objects.

**CFM**

Cash Flow Management

**CEO**

Chief Executive Officer

**CFO**

Chief Financial Officer

**CIO**

Chief Information Officer

**Customer**

The person or group who commissioned the work and will benefit from the end results.

**Capital Expenditure**

A direct expenditure that results in or contributes to the acquisition or construction of major capital assets (e.g., lands, roads, buildings). The expenditure may be for new construction, addition, replacement or renovations

to buildings that increase their value, or major alteration of a capital asset. Capital assets include land, infrastructure, buildings, equipment, vehicles and other tangible and intangible assets that have useful lives longer than one year.

**Context**

The Environment, economic condition, human factors, technology, constraints, and ambience in which the system will be deployed and used.

**Contingency**

An appropriation of funds available to cover unforeseen events that occur during the fiscal year.

**Cash Flow**

A schedule reflecting projected cash receipts and payments for payroll costs and other obligations to aid in determining seasonal and long-term borrowing needs and investment policy.

**Control**

The degree to which it is assured that operations take place in conformance with the budget and those funds are not expended in excess of available revenues.

**D****Deliverable**

An item that the project has to create as part of the requirements. It may be part of the final outcome or an intermediate element on which one or more subsequent deliverables are dependent. According to the type of project, another name for a deliverable is 'product'

**Data Integrity**

Refers to the validity of data.

**E****ERP modules**

ERP (Enterprise Resource Planning) software typically consists of multiple enterprise software modules that are individually purchased, based on what best meets the specific needs and technical capabilities of the organization.

**Executive**

The single individual with overall responsibility for ensuring that a project meets its objectives and delivers the projected benefits. This individual should ensure that the project or program maintains its business focus, that it has clear authority and that the work, including risks, is actively managed. The Executive is the chairperson of the Project Board, representing the customer, and is the owner of the Business Case.

**Expenditure**

The payment of funds appropriated in the expense budget for a particular business unit, program, activity, or purpose.

**Estimation**

The processes of making accurate estimates using the appropriate techniques.

**EBITDA**

Earnings Before Interest, Taxes, Depreciation and Amortization-

An indicator of a company's financial performance, which is calculated in the following EBITDA calculation:

$(EBITDA) = \text{Revenue} - \text{Expenses (Excluding Taxes, Depreciation and Amortization)}$ .

**Exception**

Describe any anticipated error conditions that could occur during execution of the use case, and define how the system is to respond to those conditions.

**F****Fiscal year**

Any yearly period without regard to the calendar year, at the end of which a firm, government, etc., determines its financial condition.

**Forecast**

A month-by-month projection of either obligation, revenue recognition, or cash collection that considers actuals-to-date and provides the most current estimates for the balance of the year.

**G****General ledger**

The ledger that contains all of the financial accounts of a business; contains offsetting debit and credit accounts (including control accounts).

## **J**

### **Job Analysis**

Determination of the precise characteristics of a job or position through detailed observation and critical examination of the sequential activities, facilities required, conditions of work, and the qualifications needed in a worker usu. as a preparatory step toward a job description.

## **M**

### **Master budget**

A master budget refers to a summary of company's plans that set targets for production, expenses, sales, financing activities and distribution. It helps a company in setting the spending limits and tracking the expenses.

### **Mitigation**

The action of reducing the severity, seriousness, or painfulness of something.

## **O**

### **OLED**

An OLED (organic light-emitting diode) is a light-emitting diode

### **OR**

In this context OR means Operation room in Hospitals

### **Organizational Unit**

A group of organizational resources under the direction of a manager usually organized to carry out a portion of the organization's functions. The organizational unit may be major, as in the case of a division, business unit, department, or a small unit within such a major unit. It is usually depicted as a box on an organizational chart. The organizational unit may or may not be organized to carry out a distinct area of activity.

## **P**

### **Payroll**

A list of employees, specifying the salary or wage of each.

### **Phase**

A part, section or segment of a project, similar in meaning to a PRINCE2 stage. The key meaning of stage in PRINCE2 terms is the use of management stages, i.e.

sections of the project to which the Project Board commits one at a time. A phase might be more connected to a time slice; changes of skills required or change of emphasis.

### **Process**

That which must be done to bring about a particular result in terms of information to be gathered, decisions to be made and results to be achieved

### **Plan**

A month-by-month projection of obligations, revenue recognition, or cash collection prepared by the organization prior to the beginning of the fiscal year.

### **Pre-condition**

Those conditions that must be present in order for a use case to start.

### **Post-condition**

Post-condition describes the state of the system after a use case has run its course.

### **R**

### **Requirement**

Requirement is a singular documented physical and functional need that a particular design, product or process must be able to perform.

### **S**

### **Stakeholders**

A person or group that has an investment, share, or interest in something, as a business or industry.

### **Strategies**

A plan of action or policy designed to achieve a major or overall aim.

### **Sequence Diagram**

A sequence diagram is a kind of interaction diagram that shows how processes operate with one another and in what order.

### **T**

### **Trigger**

Cause (an event or situation) to happen or exist.

**TAS**

Transactional Accounting System

**TPS**

Tax Planning System

**U****Use case**

A use case is a software and system engineering term that describes how a user uses a system to accomplish a particular goal.

**V****VOIP**

Short for Voice over Internet Protocol, a category of hardware and software that enables people to use the Internet as the transmission medium for telephone calls by sending voice data in packets using IP rather than by traditional circuit transmissions of the PSTN.

**VP**

Vice President



# Project Learning Outcomes

From our project Budget Modelling and Analysis of Vocera communication we learnt:

1. How gathering requirement is crucial part before beginning of project and working according to them keeping in mind statutory and legal policies and regulations.
2. Always keep in mind, what problem are we really trying to solve? And are we solving problem right?
3. How an Organizational chart is so important while working on requirements, you need to take input from all level of people to gain exact knowledge of how work is done and who plays an important role.
4. Postpone in-depth interview until you have complete research and having prior knowledge to the domain of the interviewee's Company helps us understand and ask the right questions.
5. During the interview we came to know that asking the right questions is important.
6. Identify Potential risk, classify them and bring them to attention of Stakeholders.
7. Gain comprehensive knowledge about budgeting in a corporate world.
8. Importance of each member of the organization right from low level to top management in budget estimation.
9. Gain better understanding of how such companies face budget constraint challenges.
10. Experienced brainstorming session with fellow teammates which was one among many reasons for success of our project.
11. Learned time management and prioritizing requirements.
12. We got an idea of how to make essential and real use cases keeping this reality of the company into consideration.
13. We understood the role of the employees in budget creation of budget, i.e., from low level managers to the top level management team.

# Budget Modelling and Analysis of Vocera Communication

SEN 945 – Software Requirements Development  
Fall 2013

PRESENTED BY:

ANUSHA KURAPATI – 84138

APARNA ANANDAPADMANABHAN – 84325

BHOOMI PATEL - 84537

HARIKA KATAMANENI – 1110262

RAKESHREDDY KOMMIDI – 84808

SHWETA VERDIA - 84224

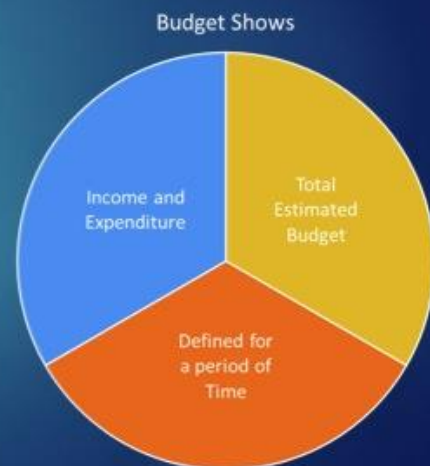


## Budgeting

“ A Planned Expression of Money”

Budgets help you:

- Set priorities
- Achieve what's important to you
- Forecast
- Control



The diagram illustrates the interconnectedness of four key components in a budgeting process:

- Interview** (top blue oval)
- Organizational Chart** (bottom left blue oval)
- Understand Budget Model** (bottom right blue oval)
- Vicere Communication** (center yellow oval)

Double-headed arrows connect all four components, indicating a reciprocal relationship between them.

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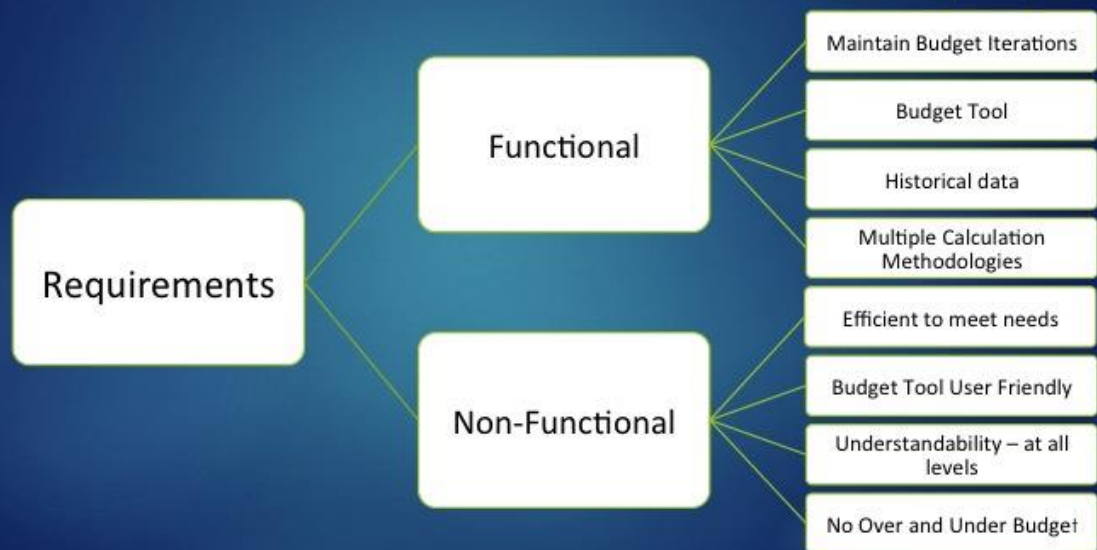
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## Requirements



## Vocera Communication



- Wireless Communications
- Provides voice communication for mobile personnel
- Role based calling
- Voice controlled

# Organization Chart

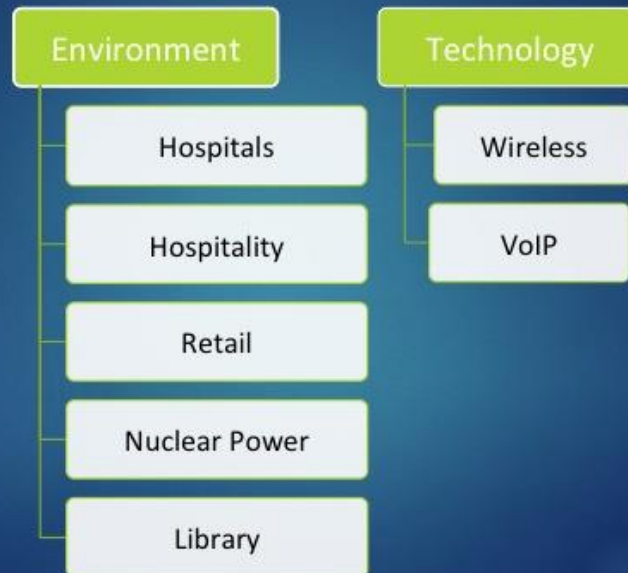


## Interview

INTERVIEWEE: Shinae Murkami

- Budget model
- Budget Cycle
- Key Players
- Tools
- Factors affecting budget
- Cope budget crisis
- Finalize budget

## Context



## Budget As Context





## Vision and Mission

- Provide timely, accurate and useful information to decision makers to assist them in making decisions that are congruent with vision, mission and goals of organization.

### Goal:

- Improve automated budget system.
- Achieve organizational management excellence.
- Customer satisfaction.

## Budget Constraint

- Restriction on expenditure.
- Business budget have ability to limit how much money is spent on each operations.
- Ensure capital is not wasted on unessential items.

# Budget Constraint Challenges

- **Lack of Accountability:**

In project budget terms, PM accountable for initial budget.

- **Unexpected budget cuts:**

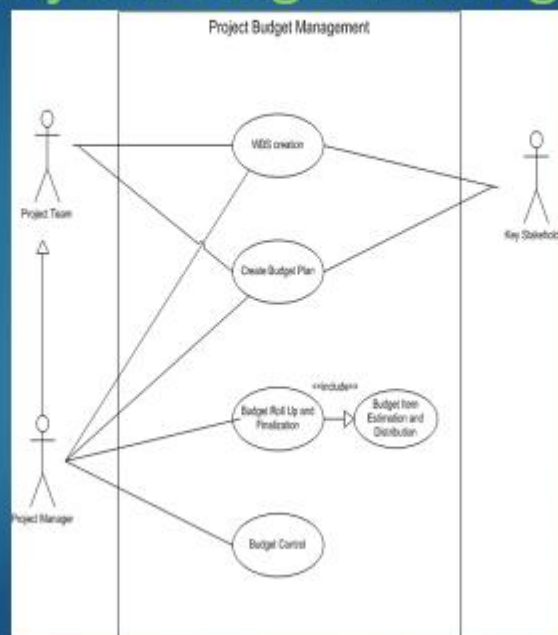
Limiting the amount of capital spent by the business may require owners and managers to find new vendors suppliers for acquiring business inputs, saving money and meeting budget limits.

- **Inflexibility:**

Budget changes as circumstances changes.

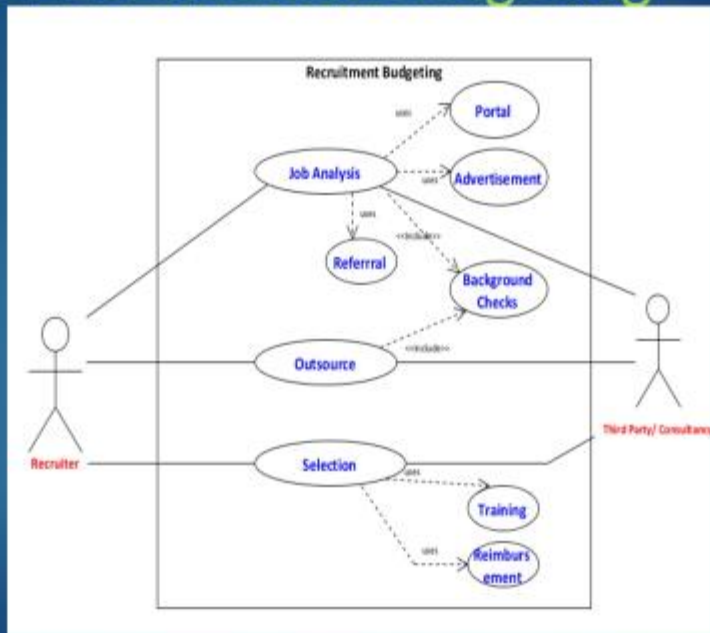
- **Facility Cost**

## Use Case: Project Budget Management

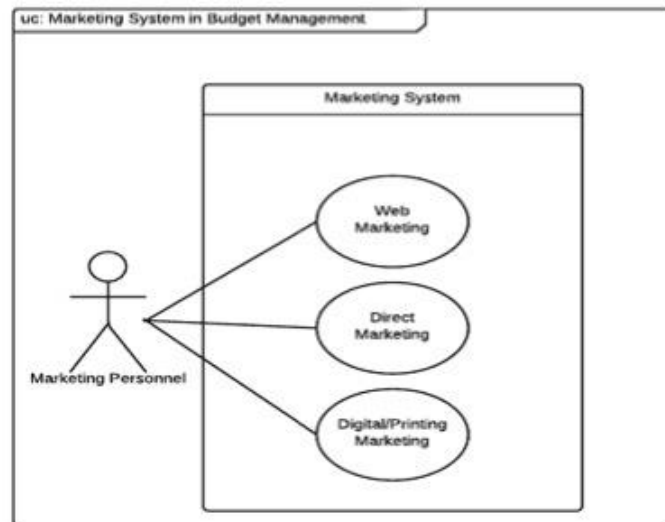




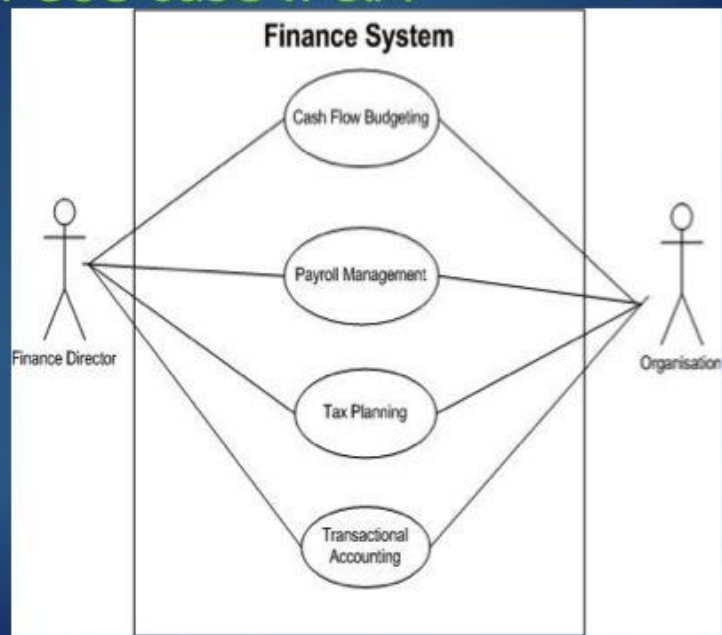
## Use Case: Recruitment Budgeting



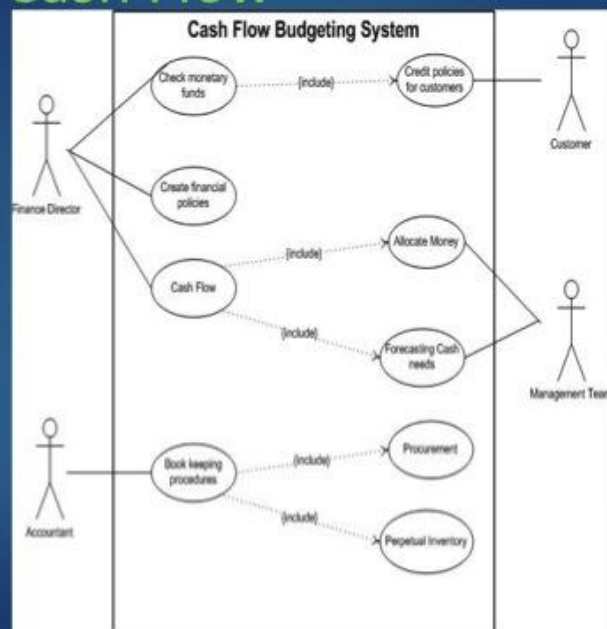
## Use Case: Marketing Budgeting



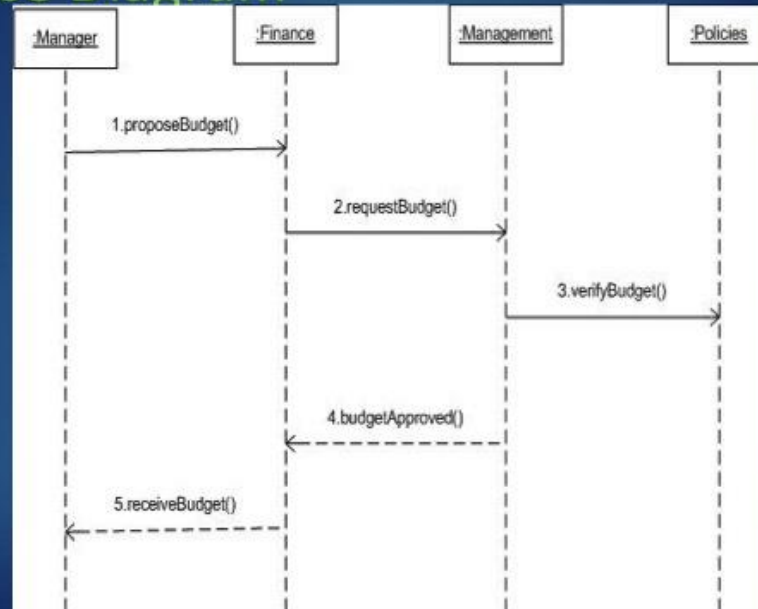
## High level Use case :F&A



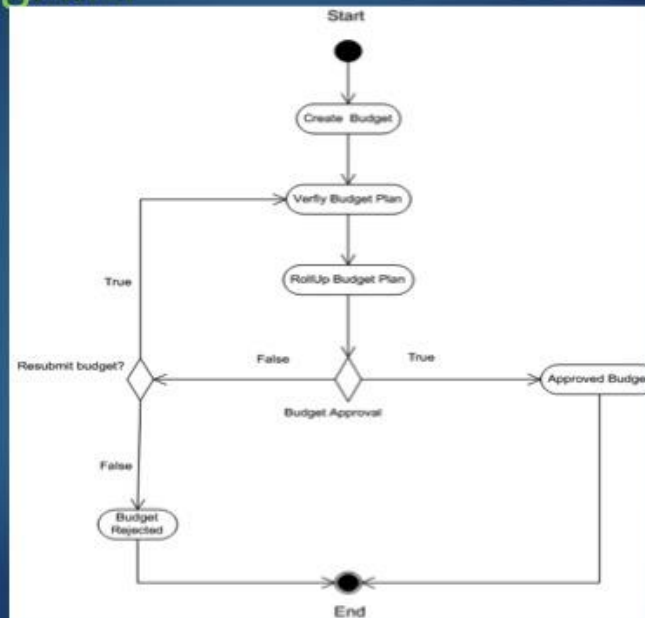
## Use Case: Cash Flow



## Sequence Diagram



## Activity Diagram



# Risk Management

A particular approach to identifying risks (threats and opportunities) and managing them within corporate resources.

A budget should provide :

- An accurate forecast of anticipated revenues and a roadmap.
- Common understanding of the challenges and opportunities
- Knowledge about strengths and weaknesses.
- Guide resources to examine vision and mission.

Questions to be kept in mind before you examine your budget



## Risk Assessment:

Each budget saving proposal was assessed by relevant senior officers using the budget risk assessment framework. The assessments were then moderated by the Principal Risk Officer and the Strategic Financial Planning Manager to ensure that the definitions were applied consistently. The information from the moderated assessments has been used to inform the budget decision making process.

- Steps involved in risk assessment process
- Validation of base conditions
- Risk identification and quantification
- Modeling
- Implementation/Monitoring
- Risk Mitigation Planning (RMP)
- Discussion/ Review



## Conclusion:

When your expenditures exceed your budget, you can do several things to get back on track:

- Review your budget
- Freeze spending
- Postpone new projects
- Lay off employees and close facilities



## Questions & Answers

