

**THE REPUBLIC OF TURKEY
BAHCESEHIR UNIVERSITY**

**BUDGET FUNCTION IN ENTERPRISES AND
APPLICATION SAMPLES**

Master Thesis

KADİR ŐEN

İSTANBUL, 2012

T.R.
BAHCESEHIR UNIVERSITY

SOCIAL SCIENCES INSTITUTE
CAPITAL MARKETS AND FINANCE

**BUDGET FUNCTION IN ENTERPRISES AND
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Thesis Supervisor: PROF. DR. NİYAZİ BERK

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ABSTRACT

BUDGET FUNCTION IN ENTERPRISES AND APPLICATION SAMPLES

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Capital Markets and Finance

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Increasing competition in globalized world drives enterprises to use their resources more effectively. For this reason production Technologies, supply strategies, computer aided manufacturing processes usage has been being increased. Finance has taken its share from this atmosphere as well. While enterprises monitor financial results of their predictions about future with financial planning, they have opportunity to decide on actions to accomplish targets with strategic planning. One of most widely used financial planning tools is budget.

Budgets are platforms on which departments plan the actions to reach the targets defined by top management with coordination. However, with contribution of feedbacks of external environment analysis to the process, budgets give opportunity to predict financial position of enterprises. Besides, budgets have a wide usage to discipline and track the departments that are prone to excess usage of resources in order to reach the targets. In this thesis, two budget process cycles are prepared both for direct and indirect methods of cash flow preparation and similarities and differences are introduced. Besides, the challenges against effective budgeting processes and the actions can be taken to overcome these challenges are addressed.

Keywords: Budget, Direct / Indirect Cash Flow, Financial Planning, Strategy

ÖZET

İŞLETMELERDE BÜTÇE FONKSİYONU VE ÖRNEK UYGULAMA

Kadir Şen

Sermaye Piyasaları ve Finans

Tez Danışmanı: Prof. Dr. Niyazi Berk

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Globalleşen dünyada artan rekabet şirketleri kaynaklarını daha etkin bir şekilde kullanma yollarını aramaya yönlendirmiştir. Bu amaçla üretim teknolojileri, tedarik stratejileri, bilgisayar destekli üretim süreçleri kullanımı ağırlık kazanmıştır. Finans da bu değişikliklerden payını almıştır. Finansal planlama faaliyetleri ile şirketler faaliyetlerinin mali görünümüne yönelik hedef ve öngörülerini izlerken, stratejik planlama metotlarını kullanarak hedefledikleri konuma gelebilmek için ortaya koymaları gereken aksiyonlara karar verirler. Finansal planlama süreçlerinde şirketler tarafından en sık kullanılan araçlardan birisi de bütçedir.

Bütçeleme üst yönetim hedeflerine ulaşmak için gerekli aksiyonların planlanması için departmanların eşgüdümünde çalışacağı bir platform oluştururken, bir yandan da dış çevre analizlerinden elde edilen geri bildirimleri sürece dâhil ederek şirketin finansal durumunu öngörmede şirketlere önemli katkılar sağlar. Ayrıca bütçe, hedeflerine ulaşmak için fazla kaynak kullanımına eğilimli departmanları takip ve disipline etmek anlamında da yaygın kullanılan bir metottur. Bu tezde, direkt ve endirekt yöntemlere göre nakit akış tablosu hazırlamaya yönelik iki adet örnek senaryo bazında örnek bütçe süreçleri çevrimi yapılmış ve her iki yöntemin benzer ve farklı yönleri ortaya konulmuştur. Bununla beraber, etkin bir bütçe sürecine engel olan nedenler ve bunların aşılabilmesi için alınabilecek aksiyonlara da değinilmiştir.

Anahtar Kelimeler: Bütçe, Direkt / Endirekt Nakit Akımı, Finansal Planlama, Strateji

INDEX

TABLES.....	vii
FIGURES.....	viii
ABBREVIATIONS.....	ix
1. INTRODUCTION.....	1
2. LITERATURE REVIEW.....	2
2.1 FINANCIAL PLANNING.....	2
2.1.1 Financial Planning Types.....	5
2.1.2 Company Decisions.....	7
2.1.2.1 The required information for financial decisions.....	9
2.1.2.2 Financial planning techniques.....	11
2.2 STRATEGIC MANAGEMENT.....	11
2.2.1 Mission and Objectives.....	13
2.2.2 Internal/External Environment Analysis.....	13
2.2.3 Strategy Formulation.....	14
2.2.4 Strategy Implementation.....	14
2.2.5 Assessment and Control.....	15
2.2.6 Keeping Aligned the Strategies with Plans and Budgets.....	16
2.2.7 The Roadmap of the Strategic Planning.....	17
2.3 BUDGET DEFINITION.....	19
2.3.1 Budget Types.....	21
2.3.2 Budgeting Models.....	23
2.3.2.1 Zero-Base Budgeting (ZBB)	25
2.3.2.2 Rolling Budgets and Forecasts.....	26
2.3.2.3 Activity Based Budgeting (ABB).....	27
2.3.2.4 The Balanced Score Card (BSC).....	29
2.3.2.5 Flexible Budgeting.....	30

2.3.3	Budgeting Process Cycle.....	31
2.3.4	Budget Organization.....	32
2.3.5	Determination of Budget Formats.....	35
2.3.6	Deployment of Targets of Budget.....	35
2.3.7	Budget Schedule.....	36
2.3.8	Preparation of Budget Guide.....	36
2.3.9	Budget Preparation and Approval Process.....	37
2.3.10	Actions Within Budget Period.....	38
2.3.11	Behavioral Aspects of Budgeting.....	38
2.3.11.1	Budgets as targets.....	40
2.3.11.2	Budgeting and motivation.....	42
2.3.11.3	Budget participation.....	43
2.3.11.4	Budget slack.....	44
3.	SAMPLE BUDGET APPLICATION.....	47
3.1	SALES BUDGET.....	48
3.2	PRODUCTION BUDGET.....	50
3.3	DIRECT MATERIALS BUDGET.....	51
3.4	DIRECT LABOR BUDGET.....	52
3.5	MANUFACTURING OVERHEAD BUDGET.....	54
3.6	SELLING AND ADMINISTRATIVE EXPENSE BUDGET.....	55
3.7	ENDING INV. AND COST OF GOODS SOLD BUDGETS.....	56
3.8	FINANCIAL STATEMENTS.....	59
3.8.1	Income Statement.....	60
3.8.2	Balance Sheet.....	63
3.8.3	Cash Flow.....	66
3.9	CHALLENGES OF BUDGETING PROCESS.....	72
3.10	SUGGESTIONS FOR BETTER BUDGETING.....	73
4.	CONCLUSION.....	75
	REFERENCES.....	77

TABLES

Table 3.1: Sales budget.....	49
Table 3.2: Production budget.....	50
Table 3.3: Sales budget.....	51
Table 3.4: Direct labor budget.....	53
Table 3.5: Manufacturing overhead budget.....	54
Table 3.6: Selling and administrative budget.....	55
Table 3.7: Ending inventory budget.....	57
Table 3.8: Cost of goods manufactured and sold budget.....	58
Table 3.9: P&L for PQR Company.....	61
Table 3.10: P&L for XYZ Company.....	62
Table 3.11: Balance sheet for PQR Company.....	64
Table 3.12: Balance sheet for XYZ Company.....	65
Table 3.13: Cash in-flow for PQR Company.....	67
Table 3.14: Cash out-flow for PQR Company.....	67
Table 3.15: Cash flow statement for PQR Company.....	69
Table 3.16: Cash flow statement for XYZ Company.....	70

FIGURES

Figure 2.1: The relationship between strategic and tactical planning.....	4
Figure 2.2: Top-down approach.....	5
Figure 2.3: Bottom-Up approach.....	6
Figure 2.4: Integration of top-down and bottom-up approaches.....	7
Figure 2.5: Relation between financial planning and strategic management.....	12
Figure 2.6: Strategic planning road map.....	18
Figure 2.7: Advantages of good budgeting model.....	24
Figure 2.8: Decision packages of zero base budgeting.....	25
Figure 2.9: Differences between traditional and rolling budgets.....	27
Figure 2.10: Processes of the ABB.....	28
Figure 2.11: Traditional approach versus ABB approach.....	28
Figure 2.12: Schematic view of Balanced Scorecard.....	29
Figure 2.13: Budget process cycle.....	31
Figure 2.14: The effect of budget difficulty on performance.....	42
Figure 3.1: Budgeting process at a production company.....	47

ABBREVIATIONS

BS	:	Balance Sheet
CF	:	Cash Flow
P&L	:	Profit and Loss (Income Statement)
IS	:	Income Statement
OH	:	Overhead
MFG	:	Manufacturing
MAT	:	Material
PURCH	:	Purchasing
DIR	:	Direct
INV	:	Inventory
ZBB	:	Zero Base Budgeting
ABB	:	Activity Based Budgeting
BSC	:	Balanced Score Card

1. INTRODUCTION

Rapidly changing conditions of the modern world and increasing competition by the effect of technological improvements and globalization, force governments to review the management models and enterprises as well. In order to provide the sustainability of enterprises, it is needed to analyze the environment with a worldwide perspective.

Enterprises need to adapt themselves to rational and effective management structures. It is important to have qualified human resources, customer-oriented approach and effective financial management. Financial management provides resources to enterprise to make investment and to run daily operations. The conditions of the modern world require the optimization of the financial resources by financial planning. Enterprises tend to create long-term strategies instead of following short-term policies in order to provide sustainability. Since finance function is understood as funding the enterprise with optimum conditions, it is not enough to describe the finance function. Finance is also related with long-term targets and strategies, assessment and control of these with financial data.

One of the most widely used management tools of finance is budgeting. Budgets are used for planning both of revenues and expenses of enterprises and give opportunity to monitor planned activities as financial figures which are easy to track. Also, by using budgets, performance of enterprise can be measured and financial situation of company can be simulated. This thesis is written to analyze budgets in detail and to cover full-cycle budgeting example.

At first section of the thesis, financial planning, strategic management and budgeting is analyzed in detail respectively. At second section two sample applications of budgeting are introduced both for direct and indirect method of preparing cash flow statements. Finally, results of observations from literature review and real-life experiences are derived.

2. LITERATURE REVIEW

Budget is a managerial tool to achieve strategic targets of top management. Before explaining budget concept, firstly financial planning is analyzed. Afterwards, strategic management – a sub-level of financial planning – is studied. Budgeting is analyzed in detail at last part of the section.

2.1 FINANCIAL PLANNING

A plan is a predetermined course of action. It is predetermination to take action that differentiates planning from other thinking about the future and distinguishes it from mere daydreaming or forecasting. Forecasting often involves predicting the future, but it does not usually presume action taken by the planning organization or company (Willson et. al 1986, p. 1A-3).

Financial analysis is about actual data of company which is related to the past time. However, financial planning is a tool that is used to determine the policies and strategies about the future and revising these (Berk 2010, p. 505). This function is important since it is a decision support tool that helps to reach the targets in the future. In order to make accurate plans, the company should be observed from all aspects. And this observation processes force finance departments to develop the best fitting models for their company.

Financial planning is the forecast and calculation of incoming or outgoing funds streams to the company at a specific time interval with a systematic approach. Planning is in the center of financial management. Although, financial planning has been being used as a management technique of finance since fifty years, it has been a fundamental tool of the policy of the companies for a long time (Gönenli 1986, p. 118).

The long term purpose of the company is to maximize the market value. Finance managers make plans to achieve this purpose and the actual values are compared with the plans afterwards (Van Horne 1979, p. 333). While making financial plans, not only the fundamental data of the company, but also macro-economic conditions, competition at the market, tax regulations, investment approach of individuals and organizations, demand at the market etc. are all taken into consideration (Bakır 1985, p.46). By using these data SWOT analysis about the company can be done. This process will not be effective unless the contribution of the employee to the planning processes is provided.

Planning is at the center of financial management but it is not enough. After planning, monitoring of the performance and revising the plans according to the results are the requirements of financial planning. As all management tools, management support is the major success factor of financial planning. Otherwise, it causes the waste of time and resources of the company.

The main purpose of financial planning is to keep the balance between cash in/out flows. Besides, with an overview of the whole company and gathering data produced with the contribution of all departments, cost saving and revenue increasing plans can also be created and monitored by using financial planning as a tool of management.

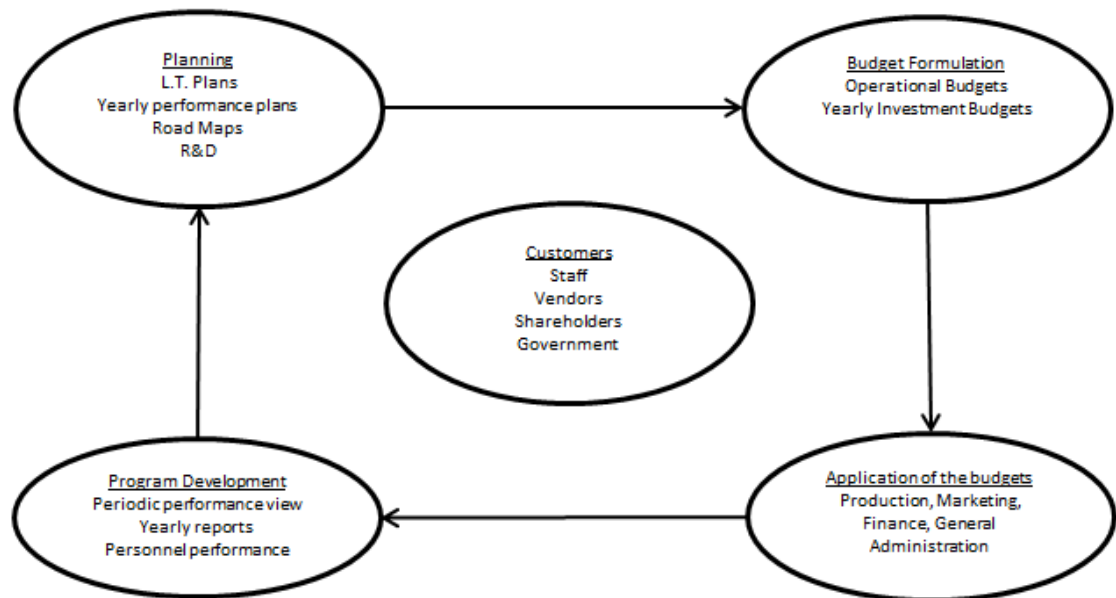
Financial planning is an overall concept that uses a wide range of data. So, the financial planning can be classified as follows (Berk 2010, p.506);

- a) **Master Budget:** It is the main part of the financial planning. It is the financial model of the company.
- b) **Precautions Plan:** Its purpose is to develop programs and actions. It has three main sub-levels.

- i. **Strategic Planning:** This is the highest level and usually done by senior management. The decisions on the objectives, committing resources such as money, time, and people in general is done here.
- ii. **Tactical Planning:** This is the implementation of the strategic plan stage. Combining the available resources, looking at obstacles, reviewing alternatives.
- iii. **Operational Planning:** This is a much more detailed level of strategic and tactical plan. Here, managers chosen to work the plan develop a specific plan to execute the strategic plan.¹

The relationship between long-middle-short term planning is shown in Figure 2.1. The long planning horizon contains the key figures for shorter horizons.

Figure 2.1: The relationship between strategic and tactical planning



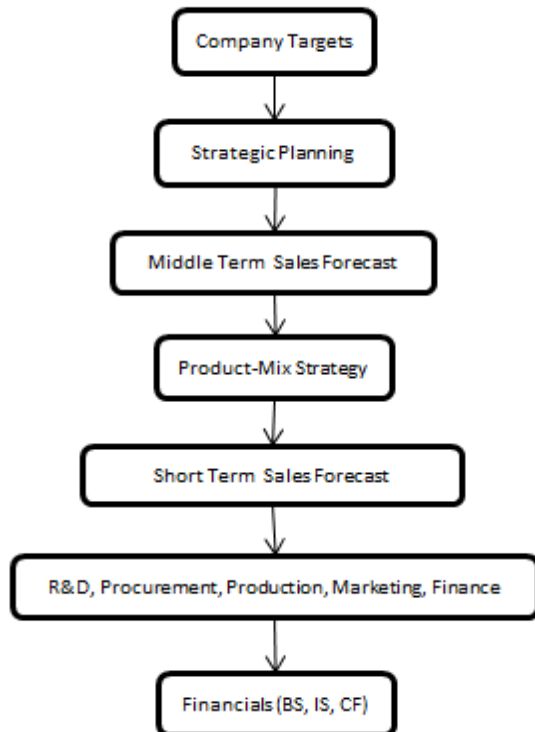
Source: Niyazi Berk, (2010) Finansal Yönetim

2.1.1 Financial Planning Types

Two main approaches exist about financial planning. These are; top-down and bottom-up approaches.

- a) **Top-down approach:** Planning process starts from top management and goes down step by step until the base layer. This approach is mostly used for strategically important targets for the top management of the company. And in order to reach the target, what is needed is shaped with the contribution of lower layers. The financial position of the company is figured with the effect of the plans formed at high management levels. Figure 2.2 shows the steps of top-down approach.

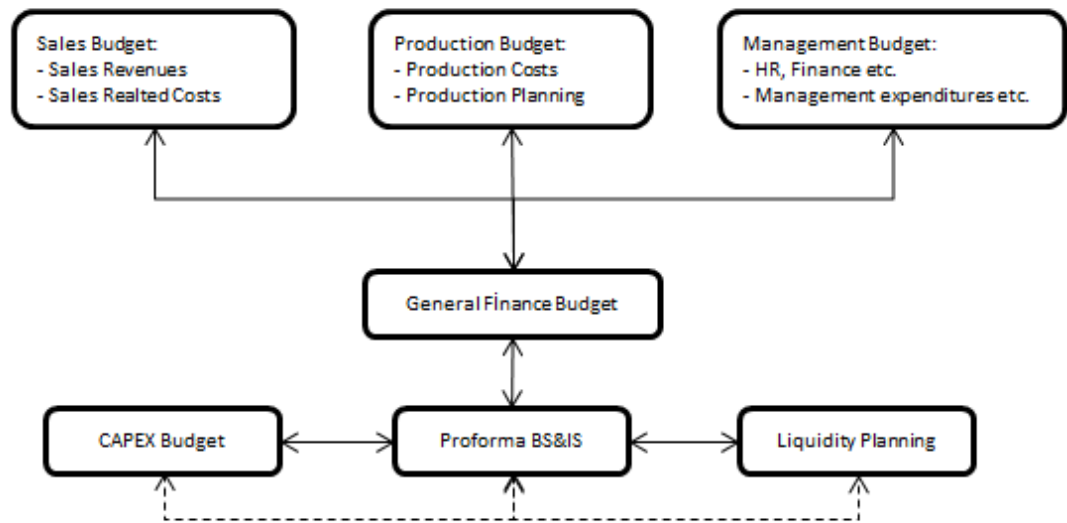
Figure 2.2: Top-down approach



Source: Niyazi Berk, (2010) Finansal Yönetim

b) **Bottom-up approach:** The starting point of bottom-up approach is lower layer and the final position of the planning process is seen with combination of these plans. The activities of the company are planned and these plans are documented as department budgets. Combination of department budgets with financial assumptions makes it possible to monitor pro-forma financials. Figure 2.3 shows the processes of the bottom-up approach.

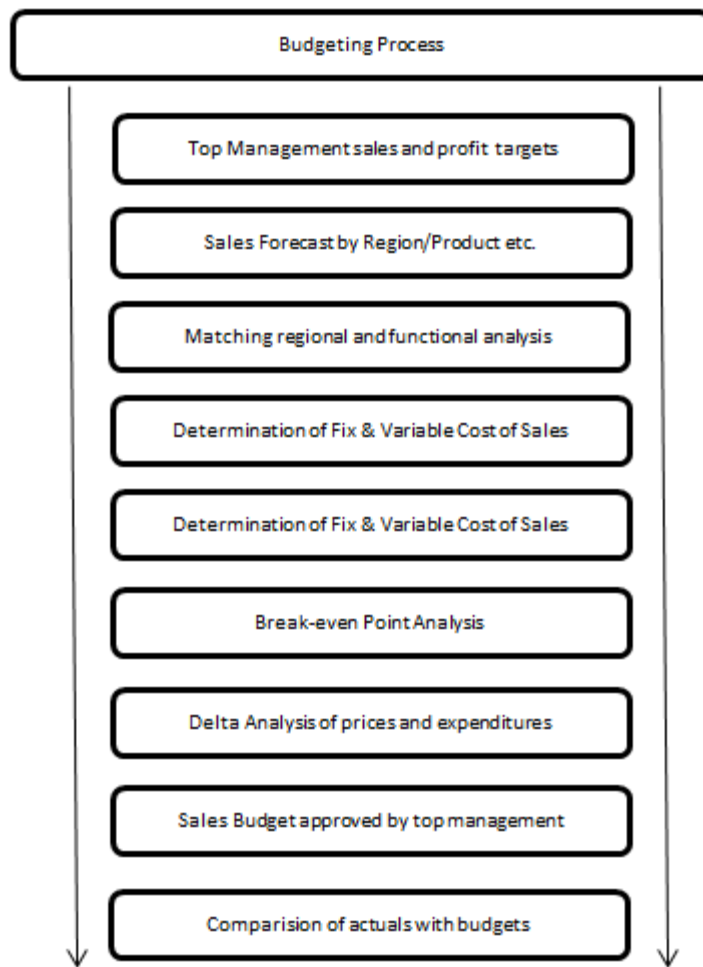
Figure 2.3: Bottom-Up approach



Source: Niyazi Berk, (2010) Finansal Yönetim

In large-scale organizations both of these approaches are used. Top management makes financial plans for overall targets of the company. Meanwhile, the activities of the company are being plans at lower levels. Then, both of these plans are gathered and the financial planning is finalized (Berk 2010, p.510). Figure 2.4 shows about the integrated structure of top-down and bottom-up approaches.

Figure 2.4: Integration of top-down and bottom-up approaches



Source: Niyazi Berk, (2010) Finansal Yönetim

2.1.2 Company Decisions

The main purpose of the planning is to reach the targets for a company. In order to make appropriate plans the company needs to make decisions. There are three kinds of decisions. These are (Tokaç 2005, p.19);

- a) **Strategic Decisions:** These types of decisions are about future and current system of the company. Generally, these decisions are related with external factors of the company such as sales and marketing.

- b) **Management Decisions:** Mostly, these are related with the management of the company such as organizational structure, authorization and responsibilities, work and information flows.

- c) **Company Decisions:** Decisions at the current production processes of the company aiming profit maximization such as pricing decisions, marketing strategies, defining production methodology and determining inventory levels.

The management needs to find the answers of the following questions at the companies;

- a) How to increase the profits?
 - i. Sales volume,
 - ii. Price level,
 - iii. Variable costs,
 - iv. Fixed costs

- b) How can the money be increased during collection and selling?
 - i. Collection period,
 - ii. Inventory cycle period,
 - iii. The lifetime of other current assets

c) How much will be gained if investment is made?

i. Profitability strategies

i.1. Company profitability

i.2. Shareholder profitability

ii. Strategies about resource structure

ii.1. Non-current assets,

ii.2. Long-term debts,

ii.3. Debt / equity ratio

The strategies should be formed about the answers of these questions.

2.1.2.1 The required information for financial decisions

The required information for financial planning (Tokaç 2005, pp. 20-21);

Income Statement Data

- a) Sales revenues,
- b) Variable cost of goods sold
- c) Fixed revenues,
- d) Financial expenses,
- e) Taxes

Financial Parameters

- a) Monthly cost of the money,
- b) Inflation ratio,
- c) Exchange rates

Balance Sheet Data

- a) Receivables,
- b) Inventories,
- c) Other current assets,
- d) Non-current assets,
- e) Short term debts,
- f) Long term debts

The required information for profitability

- a) Sales quantity,
- b) Price,
- c) Variable costs,
- d) Fixed costs

The required information for working capital

- a) Receivables,
- b) Inventories,
- c) Other non-current assets

2.1.2.2 Financial planning techniques

Financial tables can be prepared by using some methods. The best fitting methods may vary company to company. These methods may be counted as follows:

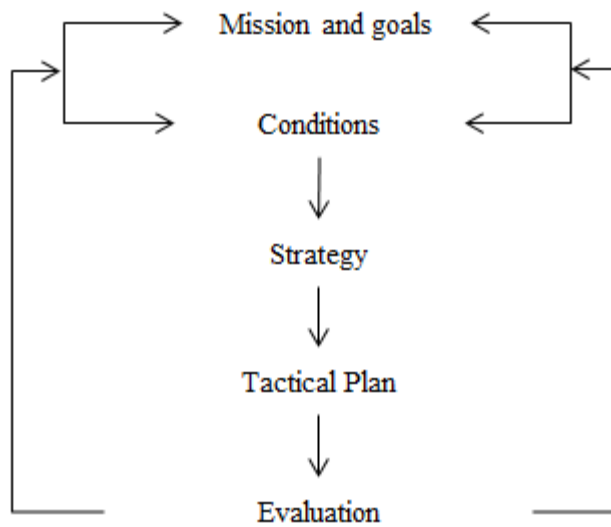
- i. **Percentage of sales method:** The items of balance sheet and income statement are expressed in terms of percentage of sales.
- ii. **Ratio method:** The ratios between various balance sheet and income statement items are used.
- iii. **Moving averages method:** The average of historic data pertaining to a specified time interval is used.
- iv. **Regression method:** The mathematical expression of relationship between two items is used.
- v. **Matrix method:** Data is taken into the matrix and transaction is made.

2.2 STRATEGIC MANAGEMENT

Strategic management can be defined as total of actions to develop efficient strategies, implementation of the strategies and controlling the results (Dinçer 1992, p.22). Strategy is the way that is determined to reach the targets of the company by analyzing the dynamics of the company and the environment. Strategy is fed by the motivation of the company to plan the future with the guidance of a vision.

Figure 2.5 shows the relation between financial planning process and strategic management.

Figure 2.5: Relation between financial planning and strategic management



Source: Willson J., (1986) Budgeting and profit planning manual

The steps and the general usage of strategic planning can be located according to this scheme. The main strategic management processes are as follows;¹

- i. Mission and objectives,
- ii. Internal/external environment analysis,
- iii. Strategy formulation,
- iv. Strategy implementation,
- v. Assessment and control.

¹ www.managementstudyguide.com

2.2.1 Mission and Objectives

Mission depicts the identity of the company. It guides the company and shows the reason of existence of the company and what it should be doing. It is the place where company targets to arrive in the future.

Objectives are determined by upper management which can be measured by financial, proportional scales.

2.2.2 Internal/External Environment Analysis

Analysis is the most critical part of strategic management concept. The purpose of the analysis is to find answer for two major questions.²

- a) How might what's happening affect you?
- b) What would be your response to likely changes?

In order to remove the ambiguity some analysis techniques are used. These techniques help to develop a systematic approach to develop strategies. The strategic analysis process can be assisted by a number of tools, including;³

- a) PEST (Political, Economic, Social, Technological) Analysis - a technique for understanding the "environment" in which a business operates.
- b) Scenario Planning - a technique that builds various plausible views of possible futures for a business
- c) Five Forces Analysis - a technique for identifying the forces which affect the level of competition in an industry

² www.3s4.org.uk

³ www.tutor2u.net

- d) Market Segmentation - a technique which seeks to identify similarities and differences between groups of customers or users
- e) Directional Policy Matrix - a technique which summarizes the competitive strength of a business's operations in specific markets
- f) Competitor Analysis - a wide range of techniques and analysis that seeks to summarize a businesses' overall competitive position
- g) Critical Success Factor Analysis - a technique to identify those areas in which a business must outperform the competition in order to succeed
- h) SWOT (Strengths, Weaknesses, Opportunities, Strengths) Analysis - a useful summary technique for summarizing the key issues arising from an assessment of a business's "internal" position and "external" environmental influences. This is one of the most frequently used tools.

2.2.3 Strategy Formulation

By using the results gathered from environmental analysis, the company should match its strengths and opportunities while taking the weaknesses and threats into consideration. Strengths and weaknesses are derived from internal scan and opportunities and weaknesses are derived from external environment. In order to reach the targets defined in mission and objectives, company defines the strategies by using the results of the analysis phase.

2.2.4 Strategy Implementation

After strategy formulation phase, the next step is strategy implementation. Strategy implementation can be managed at three main steps. These are;

- i. Programs
- ii. Budgets
- iii. Procedures

- a) **Programs:** Program is the total of the steps that are required to implement a plan that will be applied for once. For example a company may make plans to attract the attention of the customers by advertisements or promotions. The steps to apply this plan constitute the program for this case (Kaygusuz and Dokur 2009, p.19). The programs should be aligned with the strategies of the company.

- b) **Budgets:** Budgets are some kind of financial tables that provide the opportunity to represent the plans and programs of the company as monetary terms. Budgets are used as planning and control tool by the management. Strategy and policies are expressed in terms of money with budgets (Thomas and Hunger 1995, p.14).

The planning of the strategies and policies is an example of the usage of the budget for planning purposes. The control of the implemented strategies and policies can be considered as the usage of budgets as controlling tool.

- c) **Procedures:** It expresses how to make a specific job in a detailed way. In order to apply the plans the required tasks or phases are defined by procedures.

2.2.5 Assessment and Control

The results of the applied strategies are assessed and the difference between targets and actuals are compared at this phase. It may seem as the final step of the strategic management but since it shows the success of the strategies, the previous steps will be judged and if it is necessary changed, according to the feedbacks of assessment and control phase.

In order to apply the strategic planning at a healthy way, this phase should be well designed. While formulating the strategies, assessment and control phase should be taken into consideration and the ability of current structure to measure the success of the strategic plans should be criticized.

2.2.6 Keeping Aligned the Strategies with Plans and Budgets

The integrity of the components of strategic planning is important since it reflects the philosophy of the company. Therefore, it is required to prepare plans and budgets in line with the strategies. The expression of the strategies as plans or budgets is not the only purpose, but the usage of plans and budgets also guide to detect possible gaps between strategies and application of these (Kaygusuz and Dokur 2009, p.27).

The answers given to the following questions by taking the strategies, plans and budgets into consideration will lead to keep connection between these concepts (Tregoe and Tobia 1991, pp.15-16).

- a) What is the best method of grouping, classifying and separating by regions of the market and the products?
- b) How will the future position of the product and the market be identified?
- c) If an important change exists in the future, which one of the market and competition assumptions will be valid? (Market share and market development, the assumptions about the strengths and weaknesses of the product etc.)
- d) How will the products be positioned in order to meet the requirements of competitive assumptions of the market? (The properties and the functions of the product, pricing, promotion strategy, packaging etc.)
- e) Will the company meet the requirements of the foreseen position? (Market research, product development, production process and the quality of the work force etc.)
- f) How will the forecasted results of product / market be expressed? (The increase of the sales, profitability of the investments or the profitability of the sales etc.)

In addition to the questions listed above, the policies about the internal components of the company should be kept in mind. The strategies are implemented by the human resources of the companies so while making strategic plans, human factor should not be ignored.

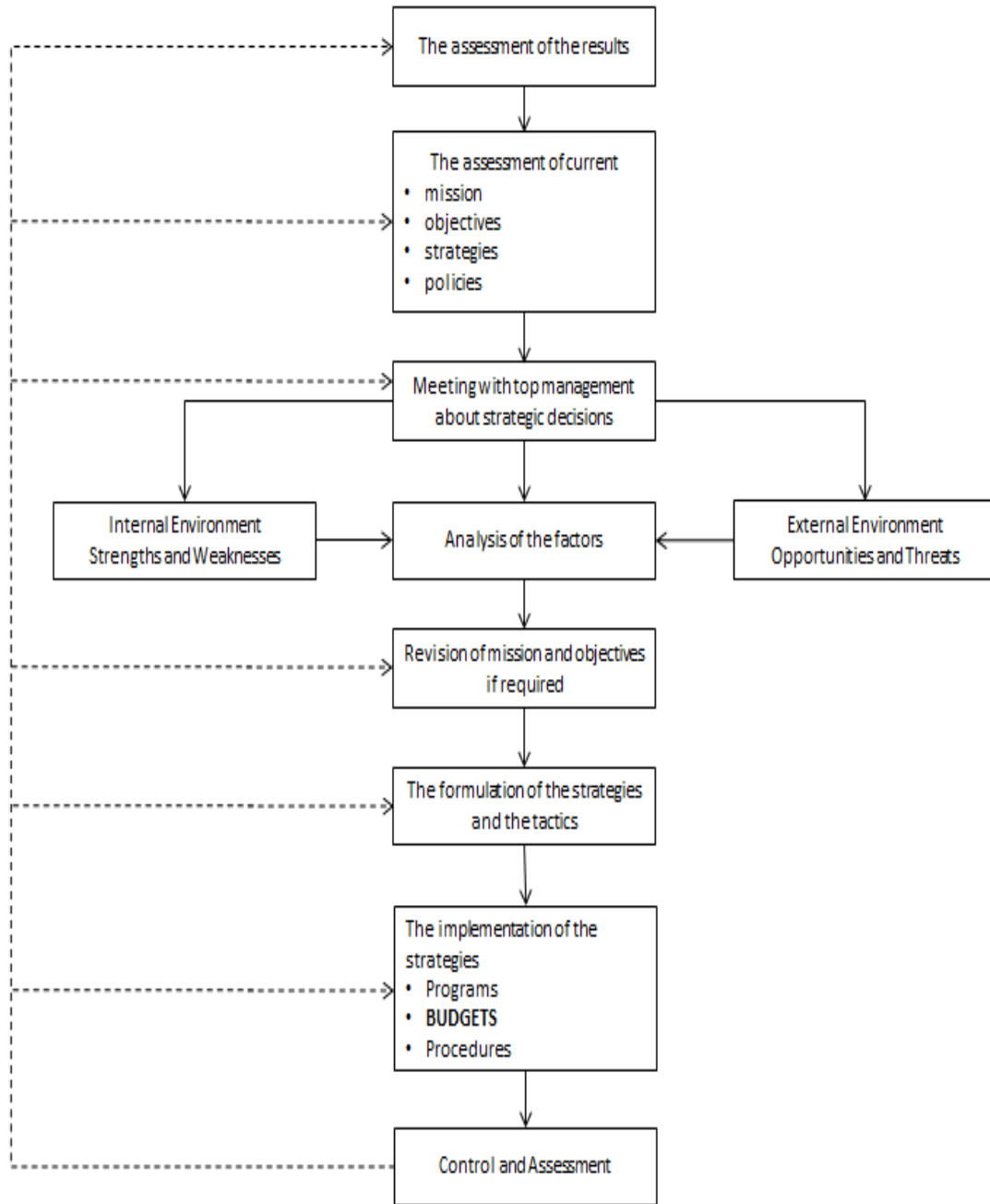
Plans and budgets that have the ability to answer to questions listed above will provide to constitute the integrity of the strategic management elements.

The place where the company targets to arrive will be determined and the required resources and usage of those will be determined accordingly by the top management. Afterwards these resources will be distributed to lower levels and the plans about the usage of these resources will be planned in order to reach the targets. By using budget tool, the detailed and numeric expression of these plans is made. In this case, strategy, plan and budget form a process that all components completed each other (Kaygusuz and Dokur 2009, p.28).

2.2.7 The Roadmap of the Strategic Planning

Figure 2.6 shows the schematic demonstration of the strategic planning. All the components of the strategic planning mentioned so far, can be seen.

Figure 2.6: Strategic planning road map



Source: Wheelen Thomas L. and Hunger, J. David, (1995) Strategic Management and Business Policy

2.3 BUDGET DEFINITION

A budget is an economical plan of the company for the future time. For a plan to be characterized as a budget it must comprise the quantities of economic resources to be allocated and used, it has to be expressed in economic i.e. monetary terms, it has to be a plan – not a hope or a forecast but an authoritative intention, and it must be made within a certain period of time (Harper 1995, p.318). According to this explanation the budgets should have following characteristics;

- i. A certain time of period,
- ii. Budgets are made with top management support and expectation,
- iii. Financials are to be prepared as a result of the budgets,
- iv. Budgets should cover all products, activities and strategic plans of the company.

The purpose of the budgets is to take the future view of the company for the budgeting period. As a managerial tool, this future view makes it easier to make plans, set targets and have an idea about expected financial situation of the company.

As all tools, the success of budgets depends on the users. If this tool is managed appropriately, it adds value to the company. Otherwise, it becomes a type of waste of resources, time and energy of the company. When administered wisely, budgets facilitate planning and resource allocation and help to enumerate, itemize, dissect and examine all of the products and services that a company offers to customers (Seer 2000, p.187).

Since, budgeting process requires looking to the future, it forces departments to analyze their work load, to make plans and estimate challenging situations. It is a good way to document business objectives and it creates the opportunity for different departments to coordinate.

The purpose of budgeting is that it gives management an idea of how well a company is meeting their income goals, whether or not expenses are in line with predicted levels and how well controls are working. Properly used, budgeting can and should increase profits, reduce unnecessary spending and clearly define how immediate steps can be taken to expand markets (Thomsett 1998, p.5). Budgets are not only beneficial from income and revenue planning point of view but also from financial planning side, it may be used. According to financial statements that are created as a result of the budgeting process, cash levels and credit planning may be done.

Since budgeting as a process is very complex, it comes as no surprise that budgets are trying to fulfill numerous functions such as (Harper 1995, p. 321, Churchill 1984, p. 162):

- a) Planning – a budget establishes a plan of action that enables management to know in advance the amounts and timing of the production factors required to meet desired levels of sales.
- b) Controlling – a budget can be used to help an organization to reach its objectives by ensuring that each of the individual steps are taken as planned.
- c) Coordinating – a budget is where all the financial components of an organization - individual units, divisions, and departments - are assembled into a coherent master picture that expresses the organization's overall operational objectives and strategic goals.
- d) Communicating – by publishing the budget, management explicitly informs its subordinates as to what exactly they must be doing and what other parts of the organization will be doing. A budget is designed to give managers a clear understanding of the company's financial goals, from expected cost savings to targeted revenues.
- e) Instructing – a budget is often as much an executive order as an organizational plan since it lays down what must be done. It may, therefore, be regarded by subordinates as a management instruction.
- f) Authorizing – if a budget is a management instruction then conversely it is an authorization to take budgeted action.

- g) Motivating – in that a budget sets a target for the different members of the organization so that it can act to motivate them to try and attain their budgeted targets.
- h) Performance measuring - by providing a benchmark against which actual performance can be measured, a budget clearly plays a crucial role in the important task of performance measurement.
- i) Decision-making – it should never be assumed that a budget is set in concrete and when changing course a well-designed budget is a very useful tool in evaluating the consequences of a proposed alternative since the effect of any change can be traced throughout the entire organization.
- j) Delegating – budgets delegate responsibility to the managers who assume authority for a specified set of resources and activities. In this way budgets emphasize even more the existing organizational structure within the company.
- k) Educating – the educating effect of a budget is perhaps most evident when the process is introduced in a company. Operating managers learn not only the technical aspects of budgeting but also how the company functions and how their business units interact with others.
- l) Better management of subordinates – a budget enhances the skills of operating managers not only by educating them about how the company functions, but also by giving them the opportunity to manage their subordinates in a more professional manner.

2.3.1 Budget Types

Budgets can be grouped from various aspects. The main budget types are described according to the aspects below (Peker 1988, p. 368):

- i. Subjects
 - a) Revenues Budgets
 - b) Costs Budgets

- ii. Approaches
 - a) Project Budgets
 - b) Term Budgets (specific term)

- iii. Objectives
 - a) Program Budgets
 - b) Activity Budgets

- iv. Technical Structures
 - a) Static Budgets
 - b) Static Budgets with Comparison
 - c) Dynamic Budgets

- v. Beginning Process
 - a) Classical Budgets
 - b) Zero-based Budgets

- vi. Scopes
 - a) Department Budgets
 - b) General Budgets

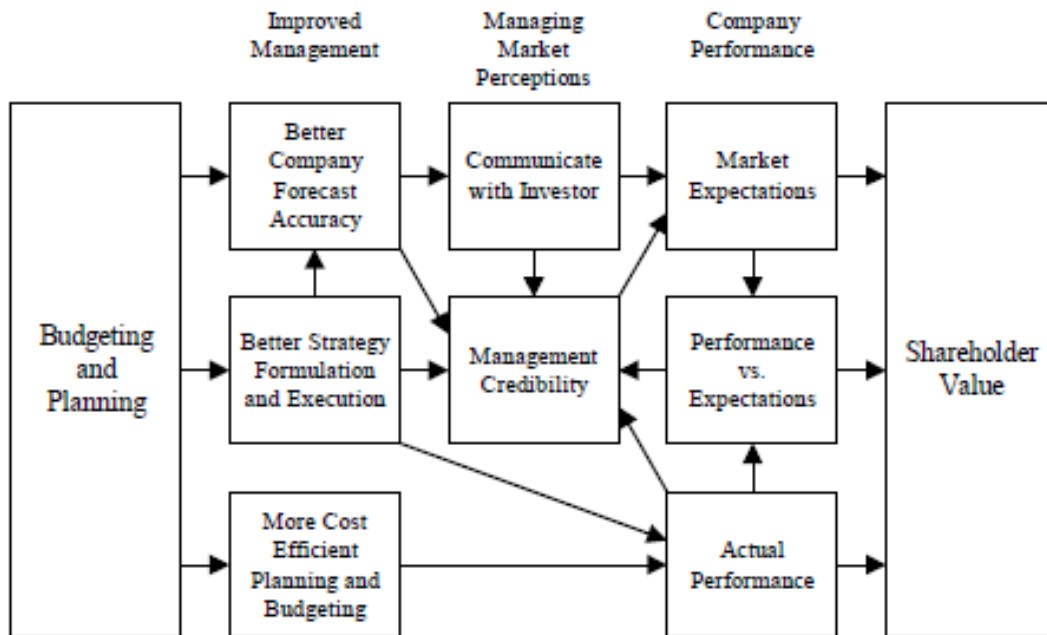
2.3.2 Budgeting Models

Some companies use traditional budgets for years and there is no complaining about this structure. When investigated, these types of companies are well established in a stable environment with a large market share and high entry barriers. But this case is not valid for most of the companies. In order to build up an accurate budgeting system some kind of budgeting models are established. There are two approaches to address what they believe are the shortcomings of traditional budgeting practices (McNally 2002, p. 10):

- a) Better budgeting approach – advocates improving the budgeting process and primarily focuses on the planning problems with budgeting.
- b) Beyond budgeting approach – advocates radical changes to the budgeting process and is concentrated on performance evaluation problems with budgeting.

Since the targets of the companies to increase their values by adapting the strategies, it is inevitable to change and modify the structures, models, approaches and the budgets as well. Figure 2.7 demonstrates the advantages to build up a good budgeting model that fits with the requirements of the company.

Figure 2.7: Advantages of good budgeting model



Source: Neely, Sutcliff, Heyns, 2001, p. 19.

In this section, budgeting models are highlighted. These are;

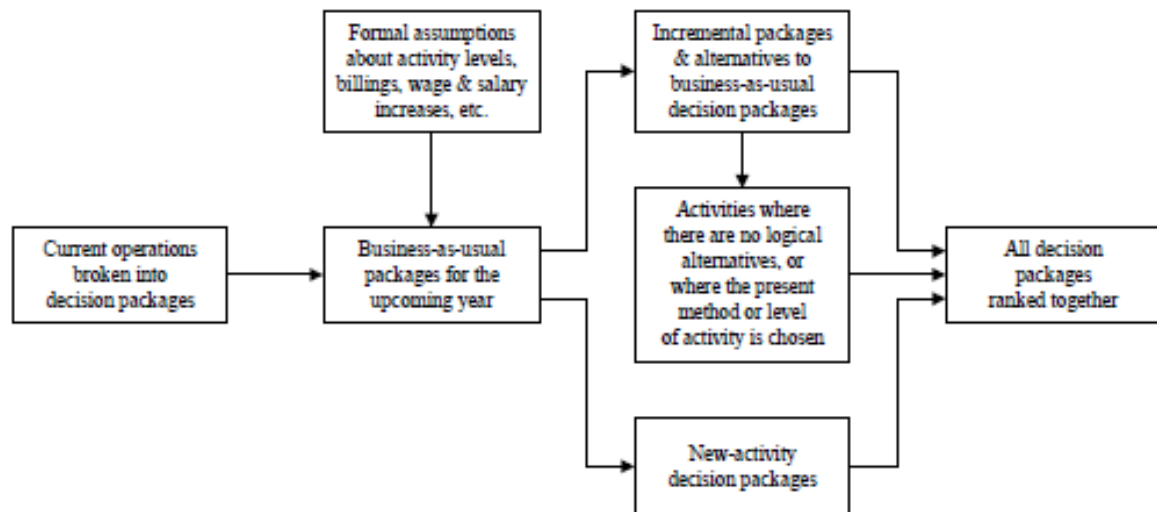
- i. Zero Base Budgeting
- ii. Rolling Budgets and Forecasts
- iii. Activity Based Budgeting
- iv. The Balanced Score Card
- v. Flexible Budgeting

2.3.2.1 Zero-Base Budgeting (ZBB)

The zero-base approach requires each organization to evaluate and review all its programs and activities systematically on the basis of performance output as well as costs, to emphasize managerial decision making first and numbers-oriented budgets second, and to increase the analysis of allocation alternatives. Figure 2.8 shows how the decision packages that are formulated at zero base budgeting models. Although management approaches to the adoption of ZBB differ among organizations since the process must be adapted to fit the specific needs of each user, the basic steps to effective ZBB can still be identified (Pyhrr 1976, p. 7):

- a) Identify “decision units”.
- b) Describe each decision unit as a “decision package”.
- c) Evaluate and rank all these packages by cost/benefit analysis to develop a budget request and profit and loss account.
- d) Allocate resources accordingly.

Figure 2.8: Decision packages of zero base budgeting



Source: Pyhrr, 1970, p.115.

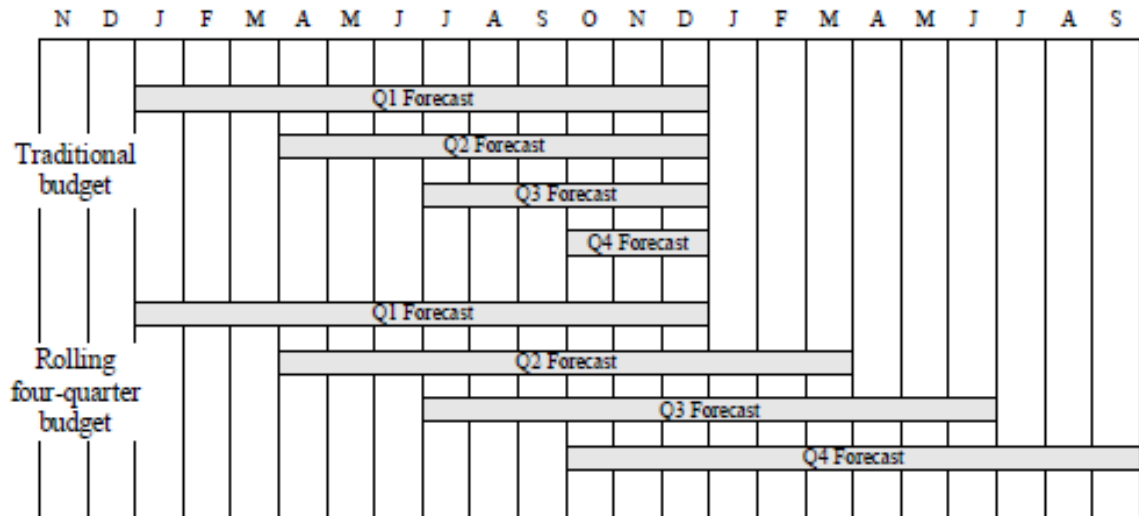
2.3.2.2 Rolling Budgets and Forecasts

A rolling budget (or continuous budget) is a plan that is continually updated so that the time frame remains stable while the actual period covered by the budget changes. For example, as each month passes, the one-year rolling budget is extended by one month, so that there is always a one-year budget in place. Due to the rolling budget, managers have to rethink the process and make changes each month or each period. The result of this is usually a more accurate, up-to-date budget incorporating the most current information (Horngren et. al 2000, p. 182).

Rolling forecasts are continuous updating of the budget. Often a 12-month window is used, whereby each month the prior budget amounts are replaced with the actual amounts and budget figures are entered for the new month. Based on actuals, the amounts in future periods may be updated to take into account information that was not available when the original amounts were budgeted. Often rolling forecasts are used in conjunction with a budget and not to replace the budget. An annual budget may be created and held static, but during the year the budget will also be updated to reflect the latest results. Continuously updating the original budget allows management to determine how the assumptions used at the beginning of the year have changed (Rasmussen and Eichorn 2000, p. 32).

Figure 2.9 shows the differences between traditional and rolling budgets. As seen from the figure, the time horizon of the forecasts of traditional budgets narrow but in rolling budgets the time horizon of the forecasts remain constant.

Figure 2.9: Differences between traditional and rolling budgets

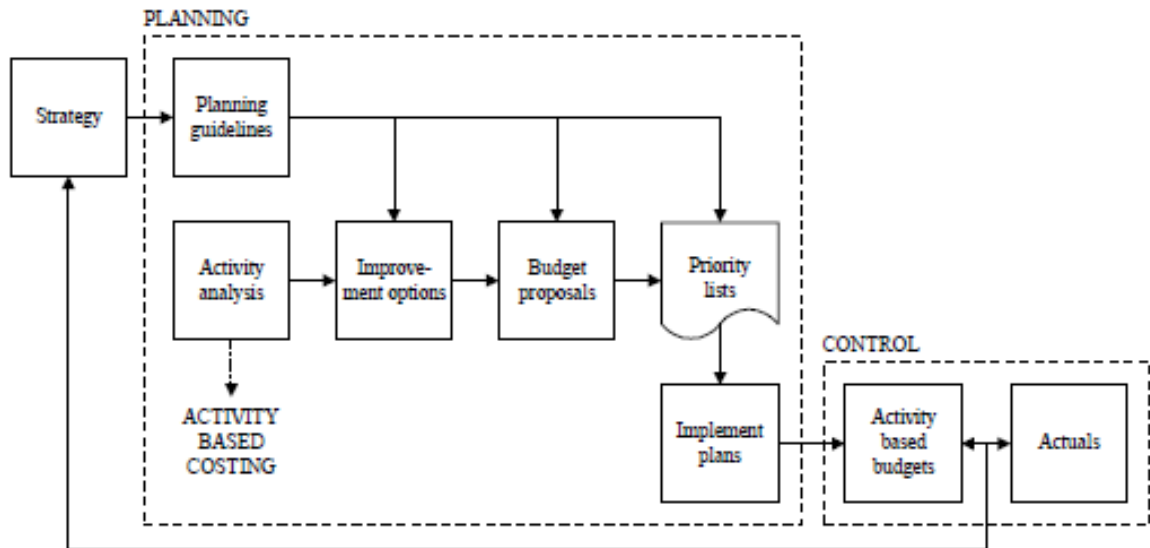


Source: Axson, 2003, p.106

2.3.2.3 Activity Based Budgeting (ABB)

ABB combines a number of well proven management practices, drawn mainly from priority base budgeting and total quality management, together with activity-based cost (ABC) management concepts. ABB is designed as a management process, operating at the activity level, for continuous improvement in performance and costs (Brimson and Fraser 1991, p. 42). Figure 2.10 shows the processes of the ABB.

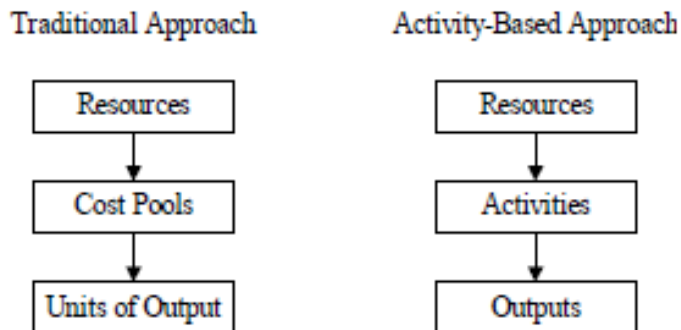
Figure 2.10: Processes of the ABB



Source: Brimson, Fraser, 1991, p.42

Activity-based concepts that form the underlying base of the activity-based budgeting model come from activity-based cost system which differs from the traditional cost system by modeling the usage of all organizational resources on the activities performed by those resources and then linking the costs of these activities to outputs such as products, services, customers and projects. Figure 2.11 depicts this issue.

Figure 2.11: Traditional approach versus ABB approach



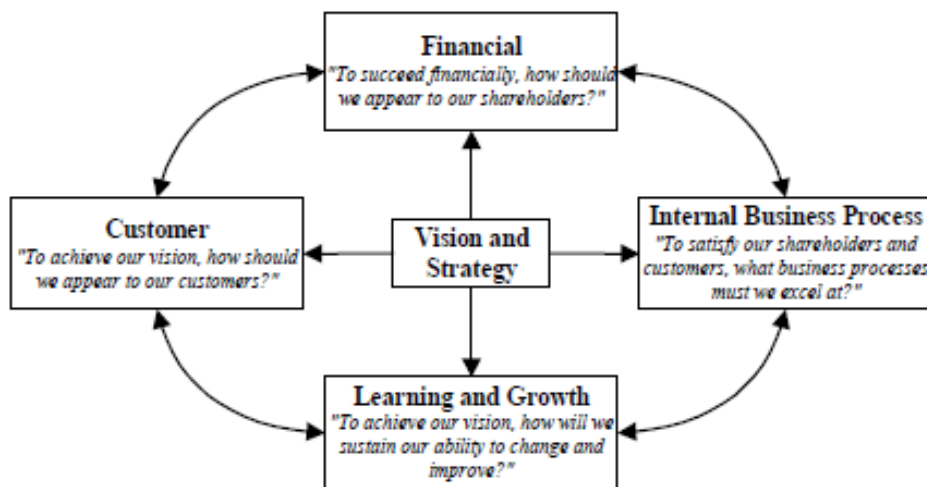
Source: Cooper et. al, 1992, p.10.

2.3.2.4 The Balanced Score Card (BSC)

It is essentially a multi-dimensional approach to performance measurement and management that is linked to organizational strategy (Otley 1999, p. 374). Balanced Scorecard (BSC) framework complements the financial measures with operational measures on customer satisfaction, internal processes, and the organization's innovation and improvement activities.

Unlike conventional metrics, the information from the four perspectives provides balance between financial and non-financial measures, leading and lagging performance indicators, short-term and long-term objectives, and external and internal performance perspectives, allowing the organization to better anticipate the future and react to unexpected environmental changes. Another peculiarity of the Balanced Scorecard is that it is not a template that can be applied to businesses in general. Different market situations, product strategies, and competitive environments require different and unique balanced scorecards (Banovic 2005, p. 68). The schematic view for Balanced Scorecard method is shown in Figure 2.12.

Figure 2.12: Schematic view of Balanced Scorecard



Source: Kaplan, Norton, 1996, p.76.

2.3.2.5 Flexible Budgeting

The flexible budget is a performance evaluation tool. It cannot be prepared before the end of the period. A flexible budget adjusts the static budget for the actual level of output. The flexible budget asks the question: “If I had known at the beginning of the period what my output volume (units produced or units sold) would be, what would my budget have looked like?” The motivation for the flexible budget is to compare apples to apples.

The flexible budget variance is the difference between any line-item in the flexible budget and the corresponding line-item from the statement of actual results.⁴

The following steps are used to prepare a flexible budget:

- i. Determine the budgeted variable cost per unit of output. Also determine the budgeted sales price per unit of output, if the entity to which the budget applies generates revenue (e.g., the retailer or the hospital).
- ii. Determine the budgeted level of fixed costs.
- iii. Determine the actual volume of output achieved (e.g., units produced for a factory, units sold for a retailer, patient days for a hospital).
- iv. Build the flexible budget based on the budgeted cost information from steps 1 and 2, and the actual volume of output from step 3.

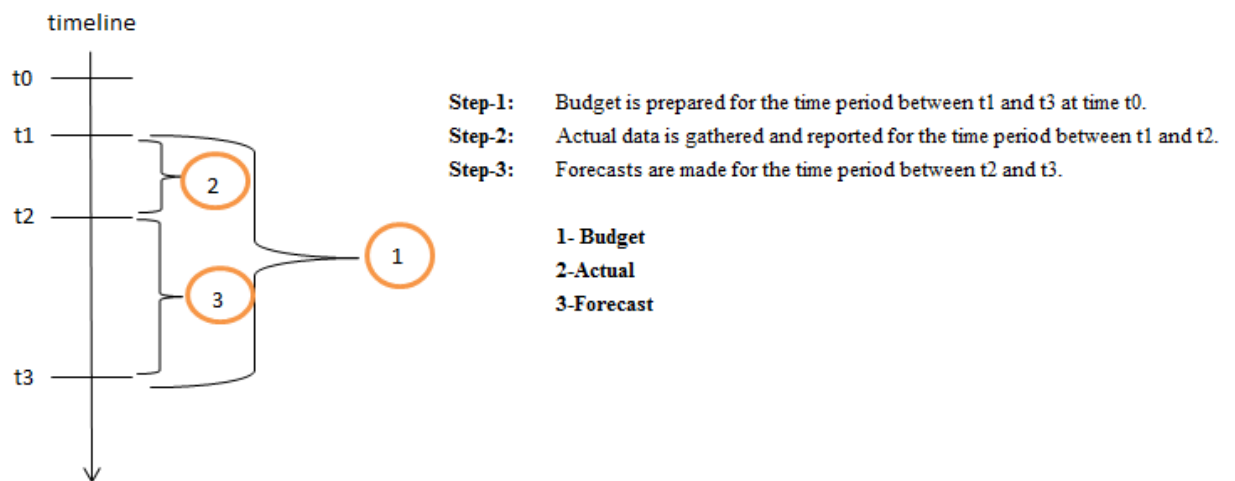
⁴ www.oregonstate.edu

2.3.3 Budgeting Process Cycle

Budget process is a living process. It is not only the preparation of the budgets and gathering financial tables accordingly. After preparing the budget, top management approves it and the final version of the approved budget is announced to the departments. The budget is made before the beginning of the year. In other words, in current year the budget of the next year is done. At figure 2.13, the Step-1 shows budgeting period. With the beginning of next year, departments start to use the budgets for this term.

Budget or finance department follows the actual expenditures and the revenues gained as well. And the results of the actual periods are reported to departments and top management. At the figure below, time interval for the actual period is shown as Step-2. During the year top management or finance/budget department may request the departments to forecast their revenues and expenditures for the rest of the year. This is the forecast period. At the figure below Step-3 shows forecast period. Forecasts are made excluding the actual months. And reporting is made by combining the forecasts and actuals. For example, if it is now April and the budget department has requested to make a forecast, the rest of eight months are forecasted and reporting is made by combining these forecasts by four months of actual data.

Figure 2.13: Budget process cycle



As a result it can be said that budgeting process cycle consist of three main components as;

- a) Budget
- b) Actual
- c) Forecast

The budgeting process is also has a strong connection with the procurement process. With the increasing capacity of software usage, enterprise resource planning software can be used to integrate procurement and budget processes. So, it may be provided to start procurement process with budget control. It increases the effective usage of the resources.

Finance / Budget department can control the amount of money used by the departments. Below, some examples of this control are given.

- a) The amount of money can be released at monthly basis.
- b) The amount can be restricted for periods with a usage ratio defined by finance / budget department.
- c) Unused part of the budget is cancelled to use at coming months.

2.3.4 Budget Organization

In order to increase the effectiveness of the budget system it may be an appropriate way to review the previous budgets and analyze the reasons of deviations. The results of this process may guide to improve the efficiency of the budgeting. Besides, an effective budgeting system can contribute to lower the costs and maximizing the profitability of the company. The prerequisite for these types of improvements is always using the budgeting as a management tool, not a routine task.

It is obvious that budgeting process always creates a pressure over all departments and managers. Since the purpose is planning the future, and there are lots of variables to take into account, it is natural to have different circumstances than the assumptions during the

planning. In a well-managed budgeting process, there should exist the flexibility to adapt the changes. If there are no significant changes in the assumptions and an eligible amount of deviation from the budget exists, then it can be said that the budget is successful. Although there are no significant changes in the assumptions and the deviations are high, than it can be said that the budget is underperforming.

Budgeting organization consists with the contribution of all departments. Some large organizations has budget department under finance organization. Some other companies manage budgeting process within accounting department. Most of the little scale organizations manage budgeting process in control of the high-level management. Budgeting department has a role of,

- a) managing budgeting and reporting processes,
- b) gathering information from the departments and
- c) constituting the communication between departments.

As a conclusion budgeting department is mainly responsible from modeling the budgeting process and take the related actions accordingly.

According to the strategic objectives determined by top-management, it is necessary to gather information from the departments. In order to manage this challenge, budget department leads to collect the budget responsible from the departments. Budget responsible coordinates the relation and the communication between department managers and budget departments.

Budget department has no mandatory role over other departments. This problem is generally solved by budget committee. This committee may be constituted by participation of a member from board of directors, top management levels such as vice presidency and also general manager.

Budget committee (Tokaç 2005, p. 97);

- i. Determines budget targets,
- ii. The key factors required to prepare budget,
- iii. Intervenes the situations that may cause inconsistency between departments
- iv. Finalizes the budget that comes from budget department
- v. In order to increase the efficiency of budget motivates the departments and managers

In small or middle scale organizations, these tasks are made by general manager or owner of the company.

As a conclusion budget organization in large companies are formed by three main components such as;

- a) Budget committee
- b) Budget Department
- c) Budget Responsible from departments

Advantages of budget department can be listed as following headlines (Tokaç 2005, pp. 98-99).

- a) Performance and profitability of the company can be followed at real-time.
- b) Effect of operations and investments to the value of the company can be tracked and measured.
- c) Decisions about budgeting, investment planning and strategic business development activities can be based on measurable issues.
- d) Accurate amount of resources will be distributed to well-chosen investment decisions.

- e) It will be possible to make short-cut or transfer of the resources without making concessions on quality of products or services during crisis periods.
- f) Budgeting system will be avoided as being a punishment tool. It will be a planning and decision making tool for all levels of managers.
- g) Budget preparation and revision processes will provide the involvement of all departments as such the contributors will adopt the budget.
- h) Budgeting process will strengthen communication and coordination in the company.

2.3.5 Determination of Budget Formats

Budget formats should be comprehensibly designed and easy to understand and enter data. Budget formats should be designed to make some controls on data. Besides, the budget structure should be aligned with chart of accounts. But in most of the real cases this condition is not valid. When creating the chart of accounts, the rules and disciplines should be established. Otherwise, accounts that are incompatible with budget structure increases and keeping it aligned becomes difficult. The main challenge is, once the chart of accounts is established, it is very difficult to change because of historic data. Because of this reason, most of the companies prefer making budget with a different account structure which is generally mapped to chart of accounts.

2.3.6 Deployment of Targets of Budget

The targets of top-management are defined according to the strategic objectives. These are formulated by budget committee and deployed to bottom levels. The targets may be like; EBITDA margin, market share, revenue expectations, investment amounts etc.

2.3.7 Budget Schedule

Budget schedule shows budget program by dates. When will the budget process start, start and finish time of steps are all planned with budget schedule. It is important for budget department to overview the processes. Since, budget committee which consists of top managers announce budget schedule, it emphasizes the importance of budget to all levels of the company.

Budgets are generally applied at the beginning of the year. Because of this, budget process for next year usually starts within fourth quarter of current year. And all the steps should be completed until the end of the year.

The workload of budget department increases at third quarter. While, reporting of current year is ongoing, the budget preparation for next year also takes time. This workload should be balanced with an appropriate budget schedule.

2.3.8 Preparation of Budget Guide

Budget guide contains general principles of budget process and important points to be taken into consideration during budgeting. Budget guide consists of two main parts. These are (Tokaç 2005, p. 102);

- i. Targets and policies of the company: targets about budget process and policies to be applied to reach the targets.
- ii. Expectations about external environment: expected economic growth ratio, inflation ratio, interest rates, exchange rates, market rate of growth etc.

Budget guide is important since it will provide usage of the same general assumptions all over the company.

Beside the budget guide, some critical information such as personnel fee increments and raw material price expectations are determined with top management and relevant departments. These kinds of specific information are not shared within the budget guide.

2.3.9 Budget Preparation and Approval Process

According to the budget schedule, budget process starting announcement is made by budget department. Departments receive the budget formats and they start to enter data to the formats according to the information given at budget guide. After this phase is completed budget department collects the forms from departments and combines all information together. Afterwards, financial tables are prepared by budget department in coordination with other departments of finance. Budget committee controls this draft and if it seems necessary budget department manages the revision of the budget communicating with other departments. In some cases finalization process of draft budget is directly managed by budget department.

During review process of budget, expenditure budget can be controlled with the guidance of following questions:

- a) Are there any unnecessary items included in the budget?
- b) Is there any opportunity to make the job more economical?
- c) Are the quantities realistic; is it possible to decrease the amounts?
- d) What should be the cost of the activities foreseen in the budget?

These types of questions asked by top managed are answered by bottom level and as a result of this process, revisions - if necessary - is made and budget is finalized.

After all of the controls budget is ready for approval of board of directors. With all assumptions and budget documents budget hand book is prepared and submitted to board of directors for approval. Board of directors controls the budget by taking the internal and

external environment into consideration. If revision demand on the budget occurs, the processes above are rolled back and revisions are made according to the instructions. If board of directors approves the budget, approved budget is distributed to relevant departments.

2.3.10 Actions Within Budget Period

After approval of the budget, the actuals must be followed and variation analysis should be made. The reasons of the variation should be questioned and the results should be controlled with the assumptions. Forecasts can be made for the rest of the year to foresee the expected financial situation in the direction of new circumstances. Or top management may define new targets or update the existing ones and forecasts are made to reach to these updated targets.

According to the feedbacks gathered from variance analysis of actual data and results of forecasts, the budget may be revised or some strategies may be updated. From these instructions it can be seen that if managed appropriately budget is an effective tool to provide control over all activities of the company.

2.3.11 Behavioral Aspects of Budgeting

As most of the management tools budgets also have a psychological aspects over people. Since the principle of budget for expenditures lies behind restriction of the resources to reach the targets of company, it causes some reflections over the people who are expected to reach targets defined in the budget. Pressure to achieve budgets had resulted in stress, interpersonal conflicts, and distrust. These in turn caused dysfunctional behavior like gaming, reduced effort and poor communication. The most important findings about this topic are (Argyris 1952, p. 25);

- a) Budget pressure tends to unite the employees against management and tends to place the factory supervisors under tension.
- b) The finance staff can obtain feelings of success only by finding fault with factory people.
- c) The use of budgets as “needlers” by top management tends to make the factory supervisors see only the problems of their own departments.
- d) Supervisors use budgets as a way of expressing their own patterns of leadership.

In order to avoid these problems with budgets, Peirce (1954) suggested three simple business principles.

- a) The first principle is that good attitudes are the key to successful budgeting where management must explain to its staff that budgets are the most effective way of corporate planning and control.
- b) The second principle is that budgets must not be used as pressure devices – “they should be tools placed in foremen’s hands and not clubs to be held over their heads”.
- c) Thirdly, only active participation and support from top management can assure the highest possible level of budget motivation and instill a “let’s do it together” attitude instead of a short-sighted “you do it or else” attitude.

Beside the budgetary pressure issue, Caplan (1966) used findings from organizational theory where individual members of an organization tend to identify with their immediate group rather than with the organization itself, as an explanation for the common state of competition for funds, recognition and authority between departments (Caplan 1966, p. 505).

One of the elements of the behavioral aspect of budgeting that received extensive theoretical research was budgeting bias. Lowe and Shaw (1968) instructed that, in many instances, managers were prepared to bias their sales forecasts to suit their own interests. As

the major sources of budgeting bias, they included reward system, recent company practice and norms, and insecurity of managers, wherein the first source seemed to cause a downward and the other two an upward bias. Their study also showed that while senior management was generally aware of biasing, their attempts to counter bias forecasts had only limited success and varied depending on the extent of their knowledge about situation and the frequency of forecasting trials. Lukka (1988) also found that both forms of budgetary biasing – budget slack and upward-biasing – were often seen by managers to be a legitimate part of the game of budget control where things like compensation strategy and intentional mistakes or deliberate avoidance of their correction during the preparation of budgets were just simple ways of how this game is played.

The behavioral aspects of budgeting can be divided into four main parts. These are;

- i. Budgets as targets
- ii. Budgeting and motivation
- iii. Budget participation
- iv. Budget slack

2.3.11.1 Budgets as targets

Budgets represent a definite and quantitative goal and as such can be easily used in employee evaluation and motivational purposes. In order for budgets to achieve these functions, managers have to be very sensitive to the behavioral influences that budgets as predetermined goals have on ordinary employees. The goal is to set up budget goals that satisfy top management's ever increasing demand for profit growth and employees' wishes for attainable and not too difficult targets. The psychological evidence suggests that the best results are obtained by setting the most difficult goals acceptable to employees and thus are internalized and accepted as their own personal objectives. However, as many managers have found out, putting this advice into practice is far from easy. This is why a number of studies have tried to find some solutions to help managers deal with this issue. Two basic

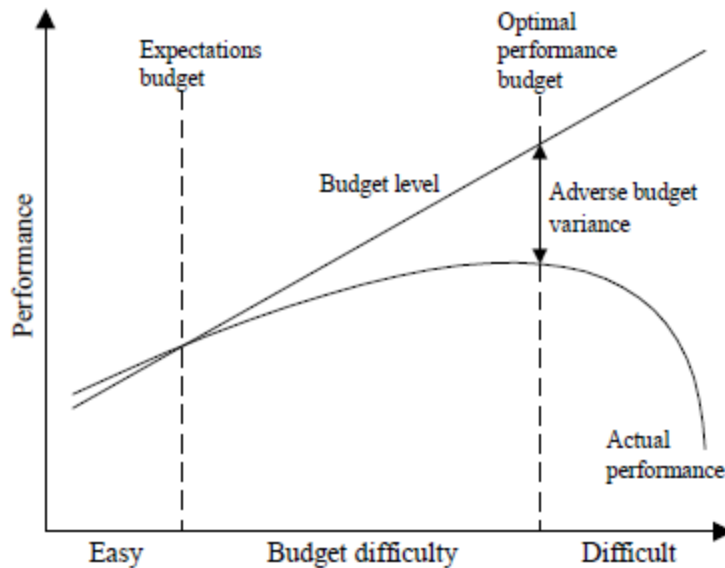
philosophies have been developed on the levels at which budgeted amounts should be set. They can be identified as (Meigs 1996, p. 1046):

- i. The behavioral approach
 - a) budgeted amounts are set at reasonable and achievable levels;
 - b) the budget is viewed as a “fair” basis for evaluating departmental performance;
 - c) a department which operates in a highly efficient manner should be able to exceed the budgeted level of performance;
 - d) failure to stay within the budget is viewed as an unacceptable level of performance;

- ii. The total quality management approach
 - a) organization is committed to the goal of completely eliminating inefficiency and no value-adding activities and strives to achieve perfection in all aspects of its operations;
 - b) budgeted amounts are set at levels that represent absolute efficiency;
 - c) small failures to achieve the budgeted performance serve to direct management’s attention towards those areas in which there is “room for improvement”;

There is a relationship between budget goals, motivation and performance. Figure 2.14 demonstrates this relationship.

Figure 2.14: The effect of budget difficulty on performance



Source: Emmanuel, Otley, Merchant, 1990, p. 173.

This figure shows that if budget goals loose budgets and too tight budgets cause poor motivation. A level in between these two difficulties should be established. This is most important part of using budgets as targets.

2.3.11.2 Budgeting and motivation

The relationship between budgets and employee motivation has also been one of the very important topics that received substantial interest in accounting research. In order to examine the behavioral impact of budgets, accounting theorists have used the expectancy theory of motivation. In this theory, people select actions based on the expectation that the action will result in particular outcomes and the valences (or personal satisfaction) associated with the outcomes (Banovic 2005, p. 25).

The expectancy theory of motivation makes it clear that budgets, in themselves, have little motivational impact. Sources of positive motivation lie on the one hand in the intrinsic

satisfaction that may be gained from actually attaining a pre-set budget target and on the other in the extrinsic rewards, such as salary bonuses, enhanced promotion prospects or status that are associated with budget attainment (Emmanuel et. al 1990, p. 175).

The connection between the expectancy model and the accounting budgeting process using the following relations:

- a) Budgets reflect management's expectations about what constitutes successful task performance. Implicit in this is the promise of extrinsic rewards for subordinates if the budget is accomplished which specifies the level of extrinsic valences associated with work-goal accomplishment.
- b) Perceived difficulty of the budget affects the expectancy of the subordinate that his/her effort will lead to budget achievement, thus the content of the budget serves as an input for the subordinates to formulate their P_1 expectancies.
- c) The degree to which superiors were consistent or inconsistent in delivering the contingent rewards following budget accomplishments may induce the subordinates to revise their estimates.
- d) Budgets may also fulfill the role of providing structure to an ambiguous task as well as of coordinating activities so that merely working towards accomplishment of the budget provides satisfaction. In this way, the budget affects the intrinsic valence associated with goal-directed behavior.

2.3.11.3 Budget participation

The participation of middle and lower level managers in the budgeting process can have beneficial effects in at least two ways. First, the process of participation reduces information asymmetry in the organization, thereby enabling top management to gain insight into issues about which lower level managers have specialized knowledge. Second, the process of participation may bring about a greater commitment by lower level managers to carry out the budget plan and "meet the budget" (Welsch et. al 1988, p. 98). Participation

is a process that can be used for planning and goal setting when there is environmental uncertainty, for motivating subordinates when there is task uncertainty, and for coordinating interdependence when there is task interdependence (Shields 1998, p. 65). Some authors even claim that participation is the main solution to the dysfunctional effects of budgeting (Argyris 1952, p. 28). Nevertheless, there are also dangers inherent in participative budgeting. Some managers may use the opportunity given by participation to reduce the standards demanded of them and to bias the estimates they submit (Young 1985, p. 830). In many companies pseudo-participation, where a superior lets a subordinate be involved with but have no influence on setting the subordinate's budget, instead of proper participation, where a superior lets a subordinate be involved with and influence budget setting, is used (Becker and Green 1962, p. 401). Thus, participation is no universal solution. It is an essential part of effective budgetary control, but needs to be used with care and understanding (Emmanuel et. al 1990, p. 172).

2.3.11.4 Budget slack

Budgetary slack can be defined as the difference between the total resources available to the firm and the total resources necessary to maintain the organizational coalition responsible for the budgetary slack (Welsch et. al 1988, p. 55). Typical examples of budget slacking and reasons why it occurs can be as follows:

- i. Sales budget estimates are understated “to protect ourselves and exceed the sales budget certainly cannot be criticized.”
- ii. Overestimating expenses “so we will have plenty of money and spending less than the budget looks good to the management.”
- iii. Requesting more cash than needed “so that we won't have to ask for more and if we turn some down it will look good.”
- iv. Approving unnecessary expenditures near the end of the budget period when there is excess of funds “because our budget allowance for the next period will be cut if we turn money down now.”

It is important to notice that budgetary slack often results from a logical circular phenomenon. Slack is built into a budget because the budget is typically cut in a higher-level review, and budgets are cut because slack has been built in. Many managers also tend to create budgetary slack to satisfy personal aspirations in “good years”, only later to convert it into profit during the “bad years”. So it can be said that in a way budget slack provides managers with a hedge against unexpected adverse circumstances.

According to the results of the study conducted by Schiff and Lewin (1970) budgetary slack in some companies may be quite significant and according to their estimates may account for as much as 20-25 percent of a division’s budgeted operating expenses. For this reason it is of no surprise that many authors have tried to provide some solutions on how to curtail this anomaly caused by the traditional budgeting process. Studies done on this topic to date have identified the use of the budgeting system for control and evaluation purposes when the budget is tight (Onsi 1973, p. 546), and information asymmetry (Young 1985, p. 840) as the main factors that contribute to the increase in managers’ propensity to create slack. Some results also indicate that business units that operate in more diversified companies, pursue a differentiation strategy, and/or have been more profitable have more budgetary slack (Van der Stede 2001, p. 43). On the other hand, strong corporate culture in the form of reputation and ethical concerns (Stevens 2002, p. 169), participation in budgeting process, technological predictability, and superiors’ ability to detect slack seems to reduce managers’ propensity to create slack (Merchant 1985, p. 207). It must be emphasized here that although participation provides managers with the opportunity to build slack into their budgets (Dunk and Nouri 1998, p. 82), they do not necessarily attempt to do so always, for reasons that include moral, ethical and career advancement considerations (Dunk and Perera 1997, p. 660). Many authors recommend that managers create the environment of mutual trust between all levels of management during the budget preparation phase and in that way create a so called truth inducing scheme. This is because numerous studies have shown that, when a truth-inducing scheme is introduced, budgetary slack decreases significantly, particularly for risk-neutral subjects such as lower levels of management,

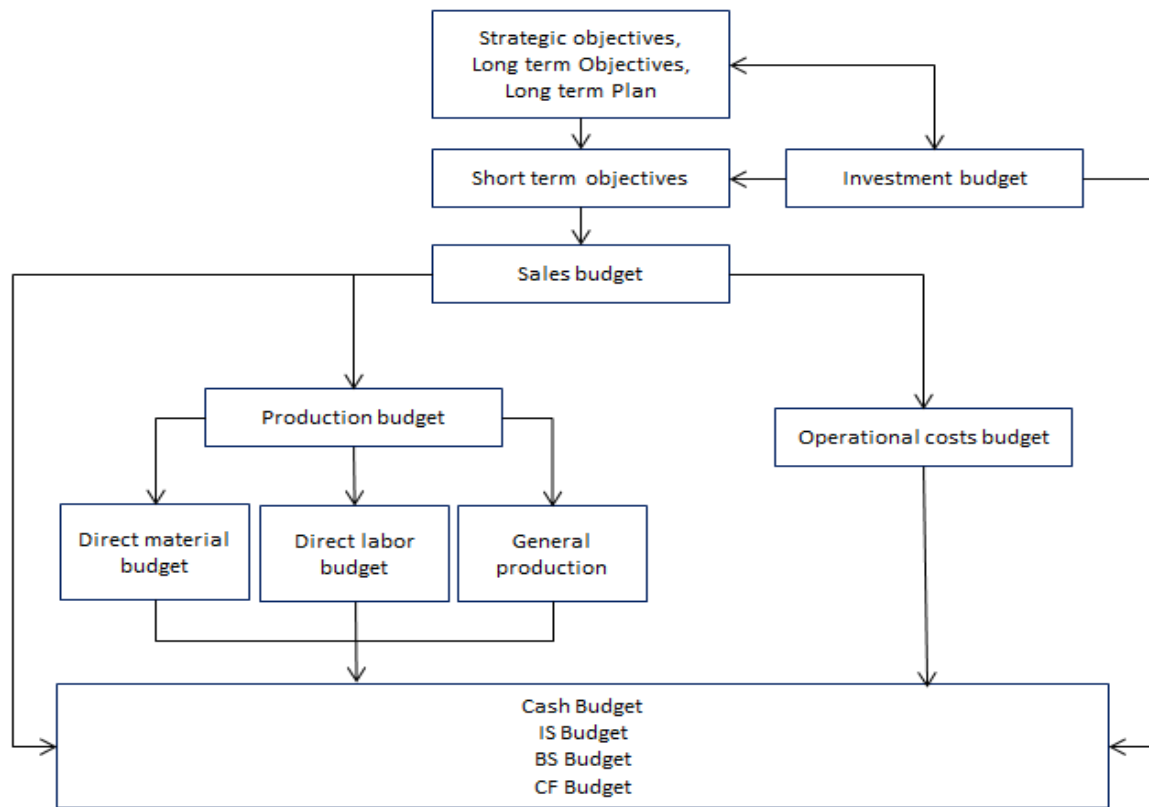
(Waller 1988, p. 96) and in situations where a high level of information asymmetry is present (Chow et. al 1988, p. 169).

However, it must be mentioned here that it is possible in accounting theory to find examples of studies like that of Dunk (1993) who uncovered evidence contrary to that suggested in literature, which suggests that when information asymmetry and budget emphasis are high, participation leads to a reduction in slack. He reported that slack was low (high) when information asymmetry, participation, and budget emphasis were all high (low). His results suggest that the nature of the relationship between these predictors and budgetary slack may be more complex than initially anticipated and, as such, will require further research in the future.

3. SAMPLE BUDGET APPLICATION

In a production company, the basic flow of budget is described in Figure 3.1;

Figure 3.1: Budgeting process at a production company



Source: Blocher et. al, 2002, p.349.

- i. Short term objectives are determined according to strategic objectives, long-term objectives and long-term plan.
- ii. Investment budget is prepared according to long and short-term objectives.
- iii. Sales budget is constructed in accordance with short-term objectives. One of the most critical parts of budgeting is sales budget since it affects all of the other budgets.

- iv. Operational costs such as sales and distribution, general management costs etc. are budgeted.
- v. Production budget is prepared by taking sales budget and targeted inventory amounts into consideration.
- vi. Direct material, direct labor and manufacturing overhead costs are budgeted according to production budget.
- vii. By combining these data financial statements are constructed. Also some of Balance sheet items need to be budgeted during this step.

There are two different techniques for cash flow preparation. These are direct and indirect methods. In following sections these methods will be explained in detail. Budgeting preparation process is formed according to the technique used for cash flow statement preparation. Because of this reason as sample budget application two imaginary companies are budgeted. PQR imaginary company is budgeted according to direct cash flow preparation technique and XYZ imaginary company is budgeted according to indirect cash flow preparation technique. The main budget flow is similar in both models. The differences due to cash flow techniques will be defined in related sections. In order to show the entire process flow the budget tables are instructed for six months (January-June).

3.1 SALES BUDGET

Sales budget is the expectation of sales for budget period. It is expressed in quantity and price basis. If a company has a large number of products, they may be grouped in order to prevent budget being unwieldy.

Sales budget is one of the requirements to determine production amounts in production budget. As mentioned in preceding section, sale budget is the starting point of budgeting process since most of other budgets are directly or indirectly affected from sales budget.

The information in the sales budget comes from a variety of sources. Most of the detail for existing products comes from those personnel who deal with them on a day-to-day basis. The marketing manager contributes sales promotion information, which can alter the timing and amount of sales. The engineering and marketing managers may also contribute information about the introduction date of new products, as well as the retirement date of old products. The chief executive officer may revise these figures for the sales of any subsidiaries or product lines that the company plans to terminate or sell during the budget period.⁵ Besides, unit selling price determination depends on production costs, market condition, general economic condition etc. All relevant data should be taken into consideration in order to define selling price.

Table 3.1 is an example of sales budget valid for both imaginary companies PQR and XYZ.

Table 3.1: Sales budget

	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Budgeted sales (units)	35.000	36.000	38.000	37.000	39.000	40.000
Selling price per unit	2	2	2	2	2	2
Total Revenue	70.000	72.000	76.000	74.000	78.000	80.000

As seen from the table above, expected sales price and quantities are multiplied to reach total expected revenue from sales of products. Sales discounts or returns may be budgeted at this level or at income statement level. In the sample application this case is ignored.

⁵ <http://www.accountingtools.com/sales-budget>

3.2 PRODUCTION BUDGET

By preparing the production budget, production amount of products are calculated. This budget type is based on number of units by product types or categories. Production budget is created by gathering forecasted sales numbers in sales budget and targeted finished goods inventory amounts.

Table 3.2 is example of production budget valid for both of the imaginary companies PQR and XYZ.

Table 3.2: Production budget

	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Sales in units	35.000	36.000	38.000	37.000	39.000	40.000
Add: desired ending inventory	7.200	7.600	7.400	7.800	8.000	7.700
Total needed	42.200	43.600	45.400	44.800	47.000	47.700
Less: beginning inventory	4.000	7.200	7.600	7.400	7.800	8.000
Production in units	38.200	36.400	37.800	37.400	39.200	39.700

Production amount is calculated with following formula.

Sales in units (from sales budget)

+ Desired ending inventory

= Needed production

- Beginning inventory

= Production in units

Beginning inventory t+1 = Desired ending inventory t (t = time)

The production of company may be push or pull manufacturing system. Push manufacturing system may be thought as “make to stock” and pull manufacturing system is “make to order”. The budgeting method of production may change according to manufacturing system and/or complexity of production. The sample above is designed to demonstrate the general principles of budgeting.

3.3 DIRECT MATERIALS BUDGET

Direct materials budget determines the materials to be purchased in order to meet the requirements of the production budget. Detail level of direct materials budget is important to manage this budget. While more detail is difficult to manage, collect data and follow the actuals, a high-level view may cause missing main-frame. Direct material budget is quantity based.

Table 3.3 is example of direct materials budget valid for both of the imaginary companies PQR and XYZ.

Table 3.3: Sales budget

	<u>Jan.2012</u>	<u>Feb.2012</u>	<u>Mar.2012</u>	<u>Apr.2012</u>	<u>May.2012</u>	<u>Jun.2012</u>
Production in units	38.200	36.400	37.800	37.400	39.200	39.700
Materials per unit	0,4	0,4	0,4	0,4	0,4	0,4
Production needs	15.280	14.560	15.120	14.960	15.680	15.880
Add: desired ending inventory	1.456	1.512	1.496	1.568	1.588	1.536
Total needed	16.736	16.072	16.616	16.528	17.268	17.416
Less: beginning inventory	13.000	1.456	1.512	1.496	1.568	1.588
Materials to be purchased	3.736	14.616	15.104	15.032	15.700	15.828

Materials to be purchased are calculated with following formula:

Production in units (from production budget)

x Materials per unit

= Production needs

+ Desired ending inventory

= Total needed

- Beginning inventory

= Materials to be purchased

Beginning inventory $_{t+1}$ = Desired ending inventory $_t$ (t = time)

With technologic development most of companies use ERP or MRP systems to manage and integrate production systems with finance. Bill of materials is defined and materials budget can be easily managed with these kinds of systems. As afore said, budget forms should be designed by taking simplicity and usability both into consideration.

3.4 DIRECT LABOR BUDGET

Direct labor budget is used to calculate the number of labor hours that will be needed to produce the units determined in the production budget such as direct material budget. Labor budget also gives opportunity to plan work force to produce budgeted amount of products by increasing/decreasing number of employees. As mentioned at previous sections if budget is properly used it gives opportunity to integrated planning of components of the company.

Table 3.4 is example of direct labor budget for both of the imaginary companies PQR and XYZ.

Table 3.4: Direct labor budget

	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Production in units	38.200	36.400	37.800	37.400	39.200	39.700
Direct labor hours	0,05	0,05	0,05	0,05	0,05	0,05
Labor hours required	1.910	1.820	1.890	1.870	1.960	1.985
Guaranteed labor hours	1.500	1.500	1.500	1.500	1.500	1.500
Wage rate	3	3	3	3	3	3
Guranteed Labor Cost	4.500	4.500	4.500	4.500	4.500	4.500
Over Time Hour	410	320	390	370	460	485
Over Time Rate	14	14	14	14	14	14
Labor Over Time Cost	5.740	4.480	5.460	5.180	6.440	6.790
Total direct labor cost	10.240	8.980	9.960	9.680	10.940	11.290

Direct labor cost is calculated with following formula:

Production in units (from production budget)

x Direct labor hours

= Labor hours required

Guaranteed labor hours

x Wage Rate

= Guaranteed labor cost

Overtime hour = Labor hours required - Guaranteed labor hours

x Overtime rate

= Labor overtime cost

Total direct labor cost = Guaranteed labor cost + Labor overtime cost

3.5 MANUFACTURING OVERHEAD BUDGET

Costs related to manufacturing except direct labor and direct material are called manufacturing overhead costs. All the costs related with production then used to calculate cost of goods manufactured and cost of goods sold. Cost of goods sold item is used in income statement to calculate gross profit of the company. Manufacturing overhead budget is also derived from production budget.

Table 3.5 is an example of manufacturing overhead budget valid for both of the imaginary companies PQR and XYZ.

Table 3.5: Manufacturing overhead budget

	<u>Jan.2012</u>	<u>Feb.2012</u>	<u>Mar.2012</u>	<u>Apr.2012</u>	<u>May.2012</u>	<u>Jun.2012</u>
Production in units	38.200	36.400	37.800	37.400	39.200	39.700
Variable mfg. OH rate	0,3	0,3	0,3	0,3	0,3	0,3
Variable mfg. OH costs	11.460	10.920	11.340	11.220	11.760	11.910
Fixed mfg. OH costs	11.000	11.000	11.000	11.000	11.000	11.000
Total mfg. OH costs	22.460	21.920	22.340	22.220	22.760	22.910
Less: noncash costs	350	350	350	350	350	350
Cash disbursements for manufacturing OH	22.110	21.570	21.990	21.870	22.410	22.560

Manufacturing overhead budget is calculated with following formula:

Production in units
x Variable mfg. OH rate
= Variable mfg. OH costs
+ Fixed mfg. OH costs
= Total mfg. OH costs
- Non-cash costs (amortization)
= Cash disbursements for manufacturing OH

Cash disbursements for manufacturing overhead item are calculated to be used for direct method used by imaginary company PQR.

3.6 SELLING AND ADMINISTRATIVE EXPENSE BUDGET

Selling and administrative expenses are all non-manufacturing department expenses such as sales, research and development, finance department etc. Budgeting of this item generally managed by gathering expenses forecasts from department managers but in some cases it can be in correlation with sales budget.

In sample application both of these two cases are taken into consideration to budget selling and administrative expenses. Table 3.6 is example of this budget valid for both of the imaginary companies PQR and XYZ.

Table 3.6: Selling and administrative budget

	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Sales in units	35.000	36.000	38.000	37.000	39.000	40.000
Variable selling and admin. rate	0,30	0,30	0,30	0,30	0,30	0,30
Variable expense	10.500	10.800	11.400	11.100	11.700	12.000
Fixed selling and admin. expense	8.000	8.000	8.000	8.000	8.000	8.000
Other Expenses	5.000	5.000	5.000	5.000	5.000	5.000
Total expense	23.500	23.800	24.400	24.100	24.700	25.000
Less: noncash expenses	800	800	800	800	800	800
Cash disbursements for selling & admin.	22.700	23.000	23.600	23.300	23.900	24.200

Selling and administrative expenses budget is calculated with following formula:

Sales in units
x Variable selling and admin. rate
= Variable Expense
+ Fixed selling and admin. expense
+ Other expenses
= Total expense
- Non-cash expenses
= Cash disbursements for selling & admin.

3.7 ENDING INVENTORY AND COST OF GOODS SOLD BUDGETS

After collection of all necessary information the next step is to preparation of financial statements. In order to prepare these, ending inventory is needed to be calculated for balance sheet and cost of goods sold is needed to be calculated for income statement.

The calculations of ending inventory and cost of goods sold items are not only used at preparation of financial statements. These items are very important for companies for effective operational and financial management. In order to achieve a successful management inventory costs and cost of goods manufactured and sold need to be tracked well. Most of the companies determine key performance indicators (KPI) for department managers. These two items are generally determined as KPI for production managers.

Table 3.7 is ending inventory budget valid for both of the imaginary companies PQR and XYZ.

Table 3.7: Ending inventory budget

	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Direct Material	Quantity	0,4	0,4	0,4	0,4	0,4
	Cost	0,4	0,4	0,4	0,4	0,4
	Total	0,16	0,16	0,16	0,16	0,16
Direct Labor Avg Cost	0,27	0,25	0,26	0,26	0,28	0,28
Manufacturing overhead Avg Cost	0,58	0,59	0,58	0,58	0,57	0,57
Unit Product Cost	1,01	1,00	1,01	1,00	1,01	1,01
Ending inventory in units	7.200	7.600	7.400	7.800	8.000	7.700
Ending finished goods inventory	7.249,38	7.594,57	7.438,76	7.827,95	8.086,12	7.797,37

Ending inventory is calculated with following formula:

Direct material quantity (per unit)

x Direct material cost

= Direct material total cost

+ Direct labor avg. cost (Total dir. labor budget / prod. in units)

+ Manufacturing overhead avg. cost (Total dir. mfg. OH budget / prod. in units)

= Unit Product Cost

x Ending inventory in units

= Ending finished goods inventory

Direct material unit costs are also budgeted in this section.

Table 3.8 is cost of goods manufactured and sold budget valid for both of the imaginary companies PQR and XYZ.

Table 3.8: Cost of goods manufactured and sold budget

	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Direct material:						
Beg. material inventory	5.200	582	605	598	627	635
Add: Materials purchases	1.494	5.846	6.042	6.013	6.280	6.331
Material available for use	6.694	6.429	6.646	6.611	6.907	6.966
Deduct: End. material inventory	582	605	598	627	635	614
Direct material used	6.112	5.824	6.048	5.984	6.272	6.352
Direct labor	10.240	8.980	9.960	9.680	10.940	11.290
Manufacturing overhead	22.460	21.920	22.340	22.220	22.760	22.910
Total manufacturing costs	38.812	36.724	38.348	37.884	39.972	40.552
Add: Beg. Work-in-process inventory	5.000	4.202	4.004	4.158	4.114	4.312
Subtotal	43.812	40.926	42.352	42.042	44.086	44.864
Deduct: End. Work-in-process inventory	4.202	4.004	4.158	4.114	4.312	4.367
Cost of goods manufactured	39.610	36.922	38.194	37.928	39.774	40.497
Add: Beg. finished-goods inventory	17.200	7.249	7.595	7.439	7.828	8.086
Cost of goods available for sale	56.810	44.171	45.789	45.367	47.602	48.583
Deduct: End. finished-goods inventory	7.249	7.595	7.439	7.828	8.086	7.797
Cost of goods sold	49.561	36.577	38.350	37.539	39.516	40.786

Cost of goods manufactured and sold is calculated with following stream:

Beginning direct material inventory
 + Materials purchases (mat. to be purch. from dir. mat. bdg. x mat. unit cost from ending inv.)
 = Materials available for use
 - Ending material inventory
 = Direct material used
 + Direct labor
 + Manufacturing overhead
 = Total manufacturing costs
 + Beginning work-in process inventory
 - Ending work-in process inventory
 = Cost of goods manufactured
 + Beginning finished-goods inventory
 = Cost of goods available for sale
 - Ending finished-goods inventory (from ending inv.)
 = Cost of goods sold

3.8 FINANCIAL STATEMENTS

For a business enterprise, all the relevant financial information, presented in a structured manner and in a form easy to understand, are called the financial statements. They typically include four basic financial statements, accompanied by a management discussion and analysis.⁶ But three main are used in budgeting process. These are:

⁶ "Presentation of Financial Statements" Standard IAS 1, International Accounting Standards Board. Accessed 24 June 2007.

- i. **Statement of Financial Position (BS):** also referred to as a balance sheet, reports on a company's assets, liabilities, and ownership equity at a given point in time. In sample model, changes in equity are also contained.
- ii. **Statement of Comprehensive Income (PL):** also referred to as Profit and Loss statement (or a "P&L"), reports on a company's income, expenses, and profits over a period of time. A Profit & Loss statement provides information on the operation of the enterprise. These include sale and the various expenses incurred during the processing state.
- iii. **Statement of cash flows CF:** reports on a company's cash flow activities, particularly its operating, investing and financing activities.

The most important product of budgeting process for top management is financial statements. The forecasted situation of the company is controlled by top management. Compatibility of budget with the vision and objectives of the company is questioned and according to the results of this process, top management may call for corrections to achieve the targets.

As mentioned in previous sections, two methods of cash flow preparation techniques are both used which are direct and indirect method. PQR imaginary company makes budgeting via direct method and XYZ imaginary company uses indirect method for budgeting.

3.8.1 Income Statement

Income statement (P&L) is important since it gives idea about operational affectivity of the company. It includes income and expense amounts. The profitability of the company, taxes, dividend payments etc. are all budgeted through P&L statement.

Table 3.9 below is P&L statement for imaginary company PQR:

Table 3.9: P&L for PQR Company

	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Sales	70.000	72.000	76.000	74.000	78.000	80.000
Cost of Goods Sold	49.561	36.577	38.350	37.539	39.516	40.786
Gross Profits	20.439	35.423	37.650	36.461	38.484	39.214
Selling and Administrative Expense	23.500	23.800	24.400	24.100	24.700	25.000
Depreciation Expense	1.150	1.150	1.150	1.150	1.150	1.150
Operating Income	(4.211)	10.473	12.100	11.211	12.634	13.064
Interest Expense	5.805	975	1.369	1.353	1.378	1.524
Earnings Before Taxes	(10.016)	9.498	10.732	9.859	11.256	11.540
Taxes	0	1.900	2.146	1.972	2.251	2.308
Earnings After Taxes	(10.016)	7.599	8.585	7.887	9.005	9.232
Preferred Stock Dividends	0	0	0	0	0	0
Earning Available to Common Stockholders	(10.016)	7.599	8.585	7.887	9.005	9.232
Common Shares Outstanding	1.000.000	1.000.000	1.000.000	1.000.000	1.000.000	1.000.000
Earnings Per Share	(0,01)	0,01	0,01	0,01	0,01	0,01

Table 3.10 is P&L statement for imaginary company XYZ:

Table 3.10: P&L for XYZ Company

	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Sales	70.000	72.000	76.000	74.000	78.000	80.000
Cost of Goods Sold	49.561	36.577	38.350	37.539	39.516	40.786
Gross Profits	20.439	35.423	37.650	36.461	38.484	39.214
Selling and Administrative Expense	23.500	23.800	24.400	24.100	24.700	25.000
Depreciation Expense	1.150	1.150	1.150	1.150	1.150	1.150
Operating Income	-4.211	10.473	12.100	11.211	12.634	13.064
Interest Expense	1.200	1.190	1.180	1.170	1.160	1.150
Earnings Before Taxes	-5.411	9.283	10.920	10.041	11.474	11.914
Taxes	-	1.857	2.184	2.008	2.295	2.383
Earnings After Taxes	-5.411	7.427	8.736	8.033	9.179	9.531
Preferred Stock Dividends						
Earning Available to Common Stockholders	(5.411)	7.427	8.736	8.033	9.179	9.531
Common Shares Outstanding	120.000	120.000	120.000	120.000	120.000	120.000
Earnings Per Share	(0,05)	0,06	0,07	0,07	0,08	0,08

Sales

- Cost of Goods Sold

= Gross Profits

- Selling and Administrative Expense

- Depreciation Expense

= Operating Income

- Interest Expense

= Earnings Before Taxes

- Taxes

= Earnings After Taxes

- Preferred Stock Dividends

= Earnings Available to Common Stockholders

/ Common Shares Outstanding

= Earnings Per Share

3.8.2 Balance Sheet

A balance sheet is a snapshot of a business' financial condition at a specific moment in time, usually at the close of an accounting period. A balance sheet comprises assets, liabilities, and owners' or stockholders' equity. Assets and liabilities are divided into short- and long-term obligations including cash accounts such as checking, money market, or government securities. At any given time, assets must equal liabilities plus owners' equity. An asset is anything the business owns that has monetary value. Liabilities are the claims of creditors against the assets of the business.⁷ The main equation of a balance sheet is as follows:

$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

Balance sheets can identify and analyze trends, particularly in the area of receivables and payables. Is the receivables cycle lengthening? Can receivables be collected more aggressively? Is some debt uncollectable? Has the business been slowing down payables to forestall an inevitable cash shortage? Balance sheets, along with income statements, are the most basic elements in providing financial reporting to potential lenders such as banks, investors, and vendors who are considering how much credit to grant the firm.⁸

Table 3.11 is balance sheet for imaginary company PQR:

⁷ www.businessstown.com/accounting/basic-sheets.asp

⁸ www.fsa-micasa.com/Section2/financial_statements.html

Table 3.11: Balance sheet for PQR Company

	Dec.2011	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Assets							
Current Assets							
Cash	\$105.000	95.805	100.000	100.000	100.000	100.000	100.000
Accounts Receivable (net)	114.000	99.000	99.400	100.200	99.800	100.600	101.000
Inventory	49000	12.034	12.203	12.195	12.569	13.033	12.779
Other Current Liabilities	13.000	13.000	13.000	13.000	13.000	13.000	13.000
Total Current Assets	281.000	219.839	224.603	225.395	225.369	226.633	226.779
Investments (long-term)	7.000	90.000	90.000	90.000	110.000	110.000	110.000
Plant & Equipment	52.400	52.400	52.400	52.400	52.400	52.400	52.400
Less: Accumulated Depreciation	13.700	14.850	16.000	17.150	18.300	19.450	20.600
Net Plant & Equipment	38.700	37.550	36.400	35.250	34.100	32.950	31.800
Total Assets	\$326.700	\$347.389	\$351.003	\$350.645	\$369.469	\$369.583	\$368.579
Liabilities and Stockholders Equity							
Current Liabilities							
Accounts Payable	\$23.000	\$23.598	\$16.564	\$13.099	\$13.232	\$13.113	\$11.817
Other Payable	1.700	1.700	1.700	1.700	1.700	1.700	1.700
Accrued Expenses	27.000	27.000	27.000	27.000	27.000	27.000	27.000
Total Current Liabilities	51.700	52.298	45.264	41.799	41.932	41.813	40.517
Long-Term Liabilities							
Other Liabilities	12.000	12.000	12.000	12.000	12.000	12.000	12.000
Total Liabilities	63.700	64.298	57.264	53.799	53.932	53.813	52.517
Stockholders Equity							
Preferred Stock value		90.000	90.000	90.000	90.000	90.000	90.000
Common Stock value		120.000	120.000	120.000	120.000	120.000	120.000
Capital paid in excess of par	36500	36500	36500	36500	36500	36500	36500
Income Reserves	4500	46.607	49.657	44.179	54.982	46.211	37.269
Retained Earnings	222000	(10.016)	(2.417)	6.168	14.055	23.060	32.292
Prev. Balance		-	(10.016)	(2.417)	6.168	14.055	23.060
Add:Earning Available to Common Stockho	52.000	(10.016)	7.599	8.585	7.887	9.005	9.232
Deduct:Cash Dividends Declared and Paid	-	-	-	-	-	-	-
Total Stockholders Equity	263.000	283.091	293.740	296.846	315.537	315.771	316.062
Total Liabilities and Stockholders Equity	\$326.700	\$347.389	\$351.003	\$350.645	\$369.469	\$369.583	\$368.579

Table 3.12 is balance sheet for imaginary company XYZ:

Table 3.12: Balance sheet for XYZ Company

	Dec.2011	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012	Ju
Assets								
Current Assets								
Cash	102.500	109.739	\$116.836	125.697	134.260	132.699	129.216	
Accounts Receivable (net)	114.000	110.000	111.000	111.500	111.800	112.000	111.700	
Inventory	59.000	59.200	59.300	58.900	58.800	58.700	58.600	
Other Current Liabilities	13.000	12.000	11.500	11.000	10.500	10.000	9.500	
Total Current Assets	288.500	290.939	298.636	307.097	315.360	313.399	309.016	
Investments (long-term)	7.000	1.000	1.500	2.000	2.500	15.000	30.000	
Plant & Equipment	52.400	52.500	52.600	52.750	52.870	52.940	53.060	
Less: Accumulated Depreciation	13.700	14.850	16.000	17.150	18.300	19.450	20.600	
Net Plant & Equipment	38.700	37.650	36.600	35.600	34.570	33.490	32.460	
Total Assets	334.200	329.589	336.736	344.697	352.430	361.889	371.476	
Liabilities and Stockholders Equity								
Current Liabilities								
Accounts Payable	23.000	23.100	23.220	23.300	23.250	23.400	23.360	
Other Payable	1.700	1.700	1.700	1.700	1.700	1.700	1.700	
Accrued Expenses	27.000	27.600	27.750	27.500	28.000	28.100	28.200	
Total Current Liabilities	51.700	52.400	52.670	52.500	52.950	53.200	53.260	
Long-Term Liabilities								
Other Liabilities	12.000	12.100	12.050	12.075	12.050	12.080	12.075	
Total Liabilities	63.700	64.500	64.720	64.575	65.000	65.280	65.335	
Stockholders Equity								
Capital paid in excess of par	36.500	36.500	36.500	36.500	36.500	36.500	36.500	
Retained Earnings	234.000	228.589	235.516	243.622	250.930	260.109	269.641	
Prev. Balance	250.000	234.000	228.589	235.516	243.622	250.930	260.109	
Add:Earning Available to Common Stockholders	10.000	(5.411)	7.427	8.736	8.033	9.179	9.531	
Deduct:Cash Dividends Declared and Paid	26.000		500	630	725			
Total Stockholders Equity	270.500	265.089	272.016	280.122	287.430	296.609	306.141	
Total Liabilities and Stockholders Equity	\$334.200	\$329.589	\$336.736	\$344.697	\$352.430	\$361.889	\$371.476	

3.8.3 Cash Flow

Cash flow statements and projections express a business's results or plans in terms of cash in and out of the business, without adjusting for accrued revenues and expenses. The cash flow statement doesn't show whether the business will be profitable, but it does show the cash position of the business at any given point in time by measuring revenue against outlays.⁹ There are two methods to prepare cash flow statement. These are:

- a) **Direct Method:** Budgeting is directly made by taking cash inflow and out flows into consideration. For example during making direct material budget purchasing terms are also used to forecast cash out-flows.

- b) **Indirect Method:** During budgeting cash in-out flow terms are ignored. Cash flow is directly reached by calculation of differences between non-cash items in balance sheets by adding earnings after taxes and depreciation and amortization.

Imaginary company PQR which makes budgeting with direct method has tables 3.13 and 3.14 to determine cash in-out flows:

⁹ www.entrepreneur.com/encyclopedia/term/82038.html

Table 3.13: Cash in-flow for PQR Company

	<u>Jan.2012</u>	<u>Feb.2012</u>	<u>Mar.2012</u>	<u>Apr.2012</u>	<u>May.2012</u>	<u>Jun.2012</u>
Previous Year	30.000					
Jan.2012	56.000	14.000				
Feb.2012		57.600	14.400			
Mar.2012			60.800	15.200		
Apr.2012				59.200	14.800	
May.2012					62.400	15.600
Jun.2012						64.000
Jul.2012						
Aug.2012						
Sep.2012						
Oct.2012						
Nov.2012						
Dec.2012						
Cash	86.000	71.600	75.200	74.400	77.200	79.600
Account Receivable	14.000	14.400	15.200	14.800	15.600	16.000

Table 3.14: Cash out-flow for PQR Company

	<u>Jan.2012</u>	<u>Feb.2012</u>	<u>Mar.2012</u>	<u>Apr.2012</u>	<u>May.2012</u>	<u>Jun.2012</u>
Previous Year	12.000					
Jan.2012	897	598				
Feb.2012		3.508	2.339			
Mar.2012			3.625	2.417		
Apr.2012				3.608	2.405	
May.2012					3.768	2.512
Jun.2012						3.799
Jul.2012						
Aug.2012						
Sep.2012						
Oct.2012						
Nov.2012						
Dec.2012						
Cash-out	12.897	4.106	5.964	6.024	6.173	6.311
Accounts Payable	598	2.339	2.417	2.405	2.512	2.532

The assumptions to create cash in/out flow budget are as follows:

- i. For cash in-flow it is assumed that % 60 of cash collection within the term that sale occurs and the rest is collected within following month.
- ii. For cash out-flow it is assumed that % 60 of payment is made within the term of procurement and the rest is paid within following month.
- iii. All other expenses are assumed to be paid within the same month.
- iv. The targeted cash amount is defined as 40.000 TL. If cash available over disbursements are above this amount than short term liabilities are paid, otherwise short term borrowing is made to catch the level of 40.000 TL.

According to these data the cash flow statement of PQR Company is as follows:

Table 3.15: Cash flow statement for PQR Company

	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Beginning cash balance	40.000	95.805	100.000	100.000	100.000	100.000
Add: cash collections	86.000	71.600	75.200	74.400	77.200	79.600
Total cash available	126.000	167.405	175.200	174.400	177.200	179.600
Less: disbursements						
Materials	12.897	4.106	5.964	6.024	6.173	6.311
Direct labor	10.240	8.980	9.960	9.680	10.940	11.290
Mfg. overhead	22.110	21.570	21.990	21.870	22.410	22.560
Selling and admin.	22.700	23.000	23.600	23.300	23.900	24.200
Dividends	-	-	-	-	-	-
	67.947	57.656	61.514	60.874	63.423	64.361
Excess (deficiency) of Cash available over disbursements	58.053	109.750	113.686	113.526	113.777	115.239
Financing:						
Borrowing	41.947	-	0	-	0	0
Repayments	0	8.775	12.317,83	12.173	12.399,19	13.715
Interest	(4.194,66)	(974,97)	(1.368,65)	(1.352,57)	(1.377,69)	(1.523,93)
Total financing	37.752	-9.750	-13.686	-13.526	-13.777	-15.239
Ending cash balance	95.805	100.000	100.000	100.000	100.000	100.000

Cash flow of PQR Company is calculated with following formula:

Beginning cash balance (is taken from balance sheet of previous term)

+ Cash collections

= Total cash available

- Cash disbursements (materials, direct labor, mfg. OH., selling and admin., dividends)

= Excess/deficiency of cash available over disbursements

+ Borrowing

- Repayments

- Interest

= Ending cash balance

XYZ Company's cash flow prepared with indirect method is shown in table 3.16:

Table 3.16: Cash flow statement for XYZ Company

	Jan.2012	Feb.2012	Mar.2012	Apr.2012	May.2012	Jun.2012
Beginning Cash Paid	102.500	109.739	116.836	125.697	134.260	132.699
cash flow from operating activities	1.239	8.247	10.116	9.933	10.979	11.641
earning after tax	(5.411)	7.427	8.736	8.033	9.179	9.531
depreciation	1.150	1.150	1.150	1.150	1.150	1.150
account receivable	4.000	(1.000)	(500)	(300)	(200)	300
inventory	(200)	(100)	400	100	100	100
other current liabilities	1.000	500	500	500	500	500
account payable	100	120	80	(50)	150	(40)
accrued expense	600	150	(250)	500	100	100
cash flow from investing activities	5.900	(600)	(650)	(620)	(12.570)	(15.120)
investments	6.000	(500)	(500)	(500)	(12.500)	(15.000)
plant & equipment	(100)	(100)	(150)	(120)	(70)	(120)
cash flow from financing activities	100	(550)	(605)	(750)	30	(5)
other Liabilities	100	(50)	25	(25)	30	(5)
preferred stock dividends	-	-	-	-	-	-
cash dividend declared & paid	-	(500)	(630)	(725)	-	-
Cash Balance	109.739	116.836	125.697	134.260	132.699	129.216

Cash flow of XYZ Company is calculated with following formula:

Beginning cash paid
 + Cash flow from operating activities
 Earning after tax
 + Depreciation
 - Δ Account receivable
 - Δ Inventory
 - Δ Prepaid expense
 + Δ Account payable
 + Δ Accrued expense
 + Cash flow from financing activities
 - Δ Investments
 - Δ Plant & equipment
 + Cash flow from financing activities
 + Δ Other Liabilities
 - Preferred stock dividends
 - Cash dividend declared and paid
 = Cash balance

As seen from sample applications, preparation of cash flow statement with indirect method is more basic. Because of this reason, most of the companies prefer indirect method to see their cash flow. Besides, direct cash flow is more accurate and difficult to manage. It brings additional cash forecast processes to budget.

3.9 CHALLENGES OF BUDGETING PROCESS

Budgeting process includes some challenges since it requires to coordinate and to synchronize different departments within the enterprise. Besides, if budgeting model is not well-designed then it becomes more difficult to see expected results. The main challenges of the budgeting process can be counted as follows:

- a) Since budgeting and budget control restricts the area of departments by the meaning of expenses and forces departments to reach target both for revenue and expense budgets, prejudgment exists on most of departments against budgeting concept and budget department.
- b) Since the coordination of departments is one of the key activities of budgeting process, top-management support to budget department is crucial for effective budgeting. If budget department is not positioned at a strong level in the hierarchy of departments, the performance of the process becomes at lower levels.
- c) It is probable for existence of conflicts between departments if some departments are more dominant than the others. For example if the budget of IT department is cut-off when the budget of marketing department is saved it is likely to see conflicts in between both of departments themselves and departments with top-management.
- d) While preparing the budget, the qualification of participants are also important. If this condition is not satisfied, it is not possible to make budget in desired detail level and it is likely to see variances during the year.
- e) If budgeting model is not well-designed and flexible enough, it increases the workload of budget department. Also, corrections on the budget and changing assumptions over the budget become more difficult.
- f) Lack of integration of budgets with strategy and other financial planning functions is another challenge.

3.10 SUGGESTIONS FOR BETTER BUDGETING

In order to use budgeting as an effective management tool, it is necessary to design a budgeting system by taking all aspects of budgeting from system design to behavioral aspects into consideration. And all steps of budgeting should be well determined. The steps described below are some of the suggestions to apply a high performance budgeting system.

- a) Top-management support should be felt to budget department itself and to other departments as well.
- b) Budget structure should be parametric, simple, easy to manage and tailor made for the enterprise as much as possible.
- c) Budget structure should be aligned with chart of accounts and departmental organization of the enterprise. If this rule is ignored the need for mapping between budget and actual data occurs and it is time consuming to maintain these types of structures for budget department.
- d) Budgeting department should be aware of the psychology of participants of the process. Budgeting is not only managing and coordinating the numbers, but also managing the perception of the departments and top management. Mechanisms and procedures should be well defined and departments should be convinced that budget is a management tool, not a tool of punishment.
- e) Plans to eliminate budget slack should be taken into consideration by budget managers. Most of budget specialists do not have enough information about business and departments as well. This disadvantage should be eliminated.
- f) Most of the time, top management revises the numbers when the budget is prepared at first. KPI's may be defined "such as percentage of cut-off" for budget department to. This will help to increase the coordination of budget department and other departments.

- g) Budget responsible of departments should be assigned from the staff that may contribute to the process. Experiences and performance levels of budget participants should not be ignored.

4. CONCLUSION

Financial planning is important since it gives opportunity to make systematic forecast of cash in/out flows, to determine optimum financing level, to create plans and strategies. Master budget is formed according to targets and objectives of the enterprise. Strategic (long-term), operational (middle-term) and tactical (short-term) planning is performed according to time scale.

Strategic planning can be described as road-map of enterprise about how to reach the pre-determined targets. In order to create strategies mission and objectives must be defined clearly. According to these, strategy formulation and implementation phases are performed. During application phase, data is collected for assessment and control of strategies.

Budget is one of management tools that are used for application and assessment of strategic objectives. Budget is prepared for a certain period of time with top management expectation and support by covering all of the products, activities and strategic plans of the enterprise. Outputs of budgeting process are financial statements which give opportunity to monitor the economic situation of the company according to collected and combined data from departments with financial assumptions. Budgeting is a whole process with inputs, outputs and procedures. So all phases of budget should be well defined and declared to departments.

Two imaginary companies are considered during preparation of sample budget applications which are PQR Company using direct method of preparing cash flow statement and XYZ Company using indirect method of preparing cash flow statement. The reason of preparing two sample applications is although the studies about budgets in the literature are related with direct method; most of real life budget applications use indirect method because of its easiness. The main purpose is to show differences of two methods and give an overall perspective about budgeting systems from both views.

According to results of observations of sample budget applications, it can be concluded that direct method is more detailed and accurate but it is more difficult to prepare and manage since indirect method is easier to use and also more flexible.

Besides sample applications challenges of budgeting and suggestions for better budgeting are touched on. According to experiences, it is observed that most of energy is spent for technical and financial side of the process and other aspects such as qualification of participants, behavioral aspects are neglected most of the time. In order to eliminate the challenges of budgeting and constitute an effective budgeting system, it is important to design the process completely from data collection to behavioral aspects.

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