MASTER BUDGET FORMATION IN PRIVATE COMPANIES

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Annotation

The formation of the master budget is the thrust of this paper. A master budget is a tool for the company performance of the budgetary control in corporate organizations and to achieve coordination of various functions of the business in the organization. The study seeks to show the importance of the budgetary process in the selected private company. Also, this study is noteworthy to heads of companies and chartered accountants as such a study could aid them towards the efficient formation of their budgeting plan for the next years. The results indicated that the selected company should expect positive results at the end of the accounting year. However, managers of the company should have attention in the financial sources because it will be needed to cover the cash deficiency.

Key words: *Master Budget formation, Sales Budget, Production Budget, Cash Budget, Budgeted Financial Statement.*

Introduction

Modern business organizations are increasingly appreciating the importance of budgeting and budgetary control in the achievement of goals and objectives. Budgeting involves the setting of targets and monitoring of performance against those targets. For an organization to be successful, it must plan its financial activities well in advance through the institution of effective budgeting and budgetary control measures (James Nwoye Obi, 2015). Thus, Budgeting is the tactical implementation of a business plan. To understand the importance of a master budget for a company, the first answer should be, why your business needs a budget? The company needs to understand where going your business and what you need to achieve the goals. The budgetary process establishes goals and policies, formulates limits, enumerates resource needs, examines specific requirements, provides flexibility, incorporates assumptions, and considers constraints. The budget process used by a company should suit its needs, be consistent with its organizational structure, and take into account human resources (Saeed et al., 2016). The budgeting process allows the company management to predict what will happen in a month, six months or a year. And if during the planning process it appears that after a while the situation deteriorates, there is the urgent need to look for solutions to improve its operation (Nazarova et al., 2016). The process of budgeting involves setting strategic goals and objectives and developing forecasts for revenues, costs, production, cash flows and other important factors (Bonner 2008; Bierman 2010). According to researchers, we notice, that the main bottom line of budget is to draft a budget of your business is that it will help you figure out how much money you have, how much you need to spend, and how much you need to bring in to meet business goals. A budget should be created before you sign an agreement of a loan or invest in a new building or before you decide to bring your production to a new market. Thus, budgets can help you minimize risk to your business. The budget can be useful for information to adjust your plans or expectations going forward. The master budget can be updated with actual expenditures and revenues each month so that you know you're on target.

The research object: Budget formation in a private company.

The aim of the article: to examine the framework of budgeting and to prepare the master budget in a private company.

The research methods: literature analysis, systematic analysis, qualitative content analysis, company financial primary data, data visualization.

Literature Review

Budgeting is a feature of business management, i.e. the process of specific actions that must be performed in the foreseeable future (Nazarova et al., 2016). A budget is an annual financial statement of the individuals, organizations, and government as a whole which shows the estimated revenue and the proposed expenditure for the coming year and also presents a report on the performance of the previous year (Lucey, 2000). The budget is one of the most important management methods in most companies in the world, that is the reason why the benefit of the practice of this method formation and application is not questionable (Shcherbina, Tamulevičienė, 2016). Several authors have defined the term budget from various perspectives and experiences. Budgeting entails the establishment of goals by the management of an organization and designing a process that serves as a framework within which an organization effectively articulates overall planned activities (Isaac, Lawal, Okoli, 2015). Budget is a predetermined statement of management policy during a given period which provides a standard for comparison with the result actually achieved (Brown and Howard, 2002). The budget is a comprehensive and co-ordinated plan expressed in financial terms for the operations and resources of an enterprise and for some specific period in the future (Pandey, 2001). On their part define a budget as a financial and/or quantitative statement prepared and approved prior to being pursued during that period for the purpose of attaining a given objective (Buyers and Holmes, 2000). Budgets are an important tool of profit planning and budgets as a tool of planning are closely related to the border system of planning in an organization (Khan and Jain, 1998). Budget as a financial or quantitative statement of a plan to be pursued for achieving a given objective (Aseshemic, 1997). A budget is based on past experience plus changes in light of the current environment (Shim et al 2012). According to M. Robinson (2009), the budgeting process can help considers the case for reformulating fiscal policy in terms of accrual rather than cash aggregates as well. He notices the accrual budgeting system. After analysis of the literature review, we notice, that the budget helps to evaluate organizational plans, while at the same time performing two vital management functions namely: The formulation of a comprehensive future plan of action; It compares actual result with predetermined plan, thus, planning and control (which are two primary functions of management) are also essential features of the budgeting process. A budget can be used to indicate some of the following: The funds needed for labor and/or materials; For a new business, total start-up costs; Your costs of operations; The revenues necessary to support the business; A realistic estimate of expected profits.

Methodology

Master budget is the sum total of all the divisional budgets that are prepared by all the divisions. It also includes the financial planning, cash-flow forecast, and budgeted profit and loss account and balance sheet of the organization. Normally the master budget is prepared for a year. Sometimes, it may be misunderstood that the master budget is one large budget of the organization. However, it is not the case. Master Budget is a summary of the divisional budget. It is a continuous financial plan (Sizer 2003, Ackaha and etc., 2014). The components of the budget are presented in Figure 1.

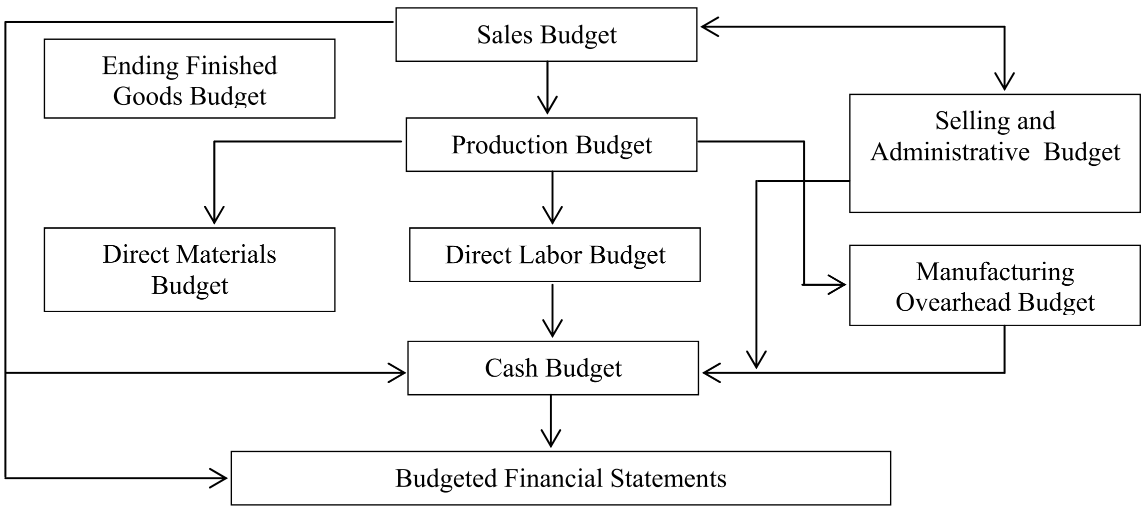

Fig. 1. The Components of Master Budget
Sources: Nazarova et al., 2016; Shcherbina, Tamulevičienė, 2016; Rakos, Man, 2016; Raghunandan et al., 2012; Ackaha et.al. 2014; Appiah-Mensah Kwame et.al. 2007; Arora, 2006.

The sales budget is the foundation of the master budget. This plan is very difficult to come by because the demands for the company product to market customers are not just to be determined, this is due to the nature of competition in the market. First and foremost, the number of units to be sold and price per unit are derived. On the basis of that, the value of sales is calculated. All the procurements, staff requirements and administration costs are based on the sales. The factors to be considered in sales forecasting are: Past sales; Reports by salesmen company conditions; Business conditions; Market demand estimation; Production capacity or an infrastructure facility; Current supply facility; Industry analysis; Market demand and production capacity are determined with the help of Marketing division and production division respectively. **The production budget** is mainly based on the sales budget. It includes the quantity of production, cost of production calculated, and manufacturing operations. Their primary function is to provide management with expenditure on production and the amount of output to be determined in the year. The factors to be considered in production budget forecasting are: Inventory at the beginning of the year; Inventory to be maintained at the end of the year; Number of units manufactured; Buffer stock to be maintained throughout the year. If the company is not having a manufacturing unit, we require a number of units to purchase instead of the production budget. The production budget is divided into further three parts: *Direct material budget; Direct labor budget and Manufacturing overhead budget.* **Direct material budget** is a phase in the accounting budget that deals with preparations of a plan to estimate the quantity of raw materials and components required for the production demanded by the production department. It enables the procurement department in planning for their purchases. It assists the procurement officer in the preparations of the procurement budget. It brings facts for raw material control. **Direct labor budget** is a budget prepared to show a number of labor workers to be used in the production of the company, in order to achieve its budget target. It does also include the cost of labor required for production. **Manufacturing overhead budget.** The factory overhead budget is normally prepared to estimate the cost of overheads, and its mainly prepared by the production managers of the organization. **Selling and Administration Budget.** For simplicity sake, selling and administration budgets have been combined. In practice, a separate budget has been prepared: the sales manager prepares the selling budget and the administrative manager prepares that of the administration. They are the selling and administration costs expected to be incurred during the budget period. **The cash budget** is the estimation of cash receipts and payments for a future period. The objective of the cash budget is to ensure that sufficient cash is available at all times to meet the level of operations that are outlined in the various budgets. On the basis of the sales and production budget, it is derived that what is the expected receipts and what are the expected payment. Receipt and payment cycle of the customer and supplier need to be analyzed. At this stage, the organization decides whether the external borrowing is required or not. On the basis of the above budgets, the **budgeted income statement** is prepared. The budgeted income statement works best when presented for all of the budget periods at once so that you can compare the results for the various periods and spot anomalies that may require additional investigation. **The budgeted balance sheet** is prepared once the Budgeted Income Statement is prepared. The budgeted balance sheet indicates the following: A balanced budget is achieved when the estimated revenue equals the proposed expenditure in a given year. In given words, a balanced budget is where an organization proposes in expenditure equal to the revenue. That's amount to be received by the organization is the same as what to intend to spend (Colville, 1989; Arora, 2006; Appiah-Mensah Kwame et.al. 2007; Raghunandan et al., 2012; Cox, 2013; Ackaha et.al., 2014; Rustamova et al., 2014; Rakos, Man, 2016; Hoffman, Reese, 2019).

Results of Master Budget Formation

Master Budget was practically applied in the JSC "Snaige" (*company*). Company is preparing a budget at the end of the accounting year (Table 1).

Table 1

The Sales Budget

Components	1 quarter	2 quarter	3 quarter	4 quarter	Annual
Budgeted sales in thousand units	39.70	54.61	58.76	50.84	*203.91*
Selling price per unit, euros	191.06	191.06	191.06	191.06	*191.06*
Total budgeted sales, thousand euro	***7,585***	***10,433***	***11,226***	***9,714***	***38,958***

After analyzing of financial data of the company, we notice, that budgeted sales for the next accounting years have to be 204 thousand units. The selling price should to be not to less than 191 euros (average value) per unit. Sales volume is calculated based on the 2017-2018 sales results. The sales price is based on a margin of 11,5 percent multiplied by the estimated production cost of 171,4 euro (Table 8). Budgeted sales equal 38,958 thousand euros. According to by company accounting policy all sales are on account 50 % collected in the quarter of sale, 35 % collected in the quarter following the sale, 15 % uncollectible (Table 2).

Table 2

Expected Cash Collections

Components	1 quarter	2 quarter	3 quarter	4 quarter	Annual
Accounts receivable				5,356	*5,356*
1 quarter sales, thousand euro					
50 % x 7585	3,792				*3,792*
35 % x 7585		2,655			*2,655*
2 quarter sales, thousand euro					
50 % x 10433		5,217			*5217*
35 % x 10433			3,652		*3652*
3 quarter sales, thousand euro					
50 % x 11226			5,613		*5,613*
35 % x 11226				3,929	*3,929*
4 quarter sales, thousand euro					
50 % x 9714				4,857	*4,857*
Total cash collections, thousand euro	***3,792***	***7,871***	***9,264***	***14,142***	***35,070***

The company will have been expected 35,070 thousand euro cash collections at the end of the accounting year. The management at the company expects, that ending inventory to be equal to 20 % of the following quarter's budgeted sales in units. In 1 quarter, 7.9 thousand units were on hand (Table 3).

Table 3

The Production Budget

Components	1 quarter	2 quarter	3 quarter	4 quarter	Annual
Budgeted Sales, thousand units	40	55	59	51	204
Add: Desired ending inventory	10.9	11.8	10.2	10.9	10.9
Total Needs	***51***	***66***	***69***	***62***	***215***
Less: Beginning inventory	7.9	10.9	11.8	10.2	7.9
Total Reguired production, thousand units	***43***	***55***	***57***	***52***	***207***

The Production Budget consists of three parts: Direct Materials Budget; Direct Labor Budget; Manufacturing Overhead Budget. At the company, 5 pounds (assumed value) of material is required per unit of product. Management of the company would like materials on hand at the end of each quarter to 10% of the following quarter's production. On 1 of the quarter, 21 pounds of materials are on hand. Material cost per pound is calculated by the primer cost of production materials divide required production thousand units (Table 4).

Table 4

The Direct Materials Budget

Components	1 quarter	2 quarter	3 quarter	4 quarter	Annual
Reguired production, thousand units	43	55	57	52	207
Materials per unit (pounds)	5	5	5	5	5
Production needs	213	277	286	258	1,035
Add: Desired ending inventory	28	29	26	27	27
Total needed	***241***	***306***	***312***	***285***	***1,062***
Less: Beginning inventory	21	28	29	26	21
Materials to be purchased, thousand units	***220***	***278***	***283***	***260***	***1,041***
Material cost, euro per pound	23	32	35	28.0	29.4
Total direct materials, thousand euro	***4,959***	***8,932***	***9,894***	***7,271***	***30,603***

The company should expect a 24,9 thousand euro cash disbursement at the end of the accounting year (Table 5). 60 % of a month's purchases are paid for in the month of purchase;

20 % is paid in the following quarter. The 1 of quarter accounts payable balance was being 1,502 thousand euros.

Table 5

Expected Cash Disbursement For Materials

Components	1 quarter	2 quarter	3 quarter	4 quarter	Annual
Accounts payable - 01, January	1,502				*1,502*
April purchases					
60 % x 4959	2,976				*2,976*
60 % x 8932		992	1,786		*2,778*
60 % x 9894		5,359	5,936	1,979	*13,274*
60 % x 7271				4,362	*4,362*
Total Cash disbursements, thousand euro	***4,477***	***6,351***	***7,723***	***6,341***	***24,892***

Results show, that each unit of the product will have to be required 12 hours (assumed value) of direct labor. The Company has a "no layoff" policy so all employees will be paid for 40 hours of work each week. In exchange for the "no layoff" policy, workers agree to a wage rate of 1,5 euro per hour regardless of the hours worked (assumed no overtime pay). For the 1 quarter, the direct labor workforce will be paid for a minimum of 480 hours per quarter (Table 6).

Table 6

The Direct Labor Budget

Components	1 quarter	2 quarter	3 quarter	4 quarter	Annual
Reguired production, thousand units	43	55	57	52	207
Director labor per unit	12	12	12	12	12
Labor hours required	***513***	***665***	***686***	***619***	***2,483***
Guaranteed labor hours	480	480	480	480	
Labor hours paid	**513**	**665**	**686**	**619**	***2,484***
Hourly wage rate, euro/hour	1.4	1.5	1.5	1.5	1.5
Total direct labor cost, thousand euro	***738***	***1,002***	***1,032***	***960***	***3,724***

Based on direct labor hours, the manufacturing overhead had been included in units of the product. The variable manufacturing overhead rate is being 1 euro per direct labor hour. Fixed manufacturing overhead is being 5,433 euros per quarter and it had been included 1,378 euro of noncash costs (primarily depreciation of fixed assets). The Company plans cash disbursements for manufacturing expenses of 6,539 thousand euros (Table 7).

Table 7

Manufacturing Overhead Budget

Components	1 quarter	2 quarter	3 quarter	4 quarter	Annual
Budgeted of Direct Labor hours (DLH)	513	665	686	619	***2,484***
Variable manufacturing overhead (mfg. OH) rate, euro/hour	1.0	1.0	1.0	1.0	1.0
Variable mfg. OH costs, euro	***513***	***665***	***686***	***619***	***2,484***
Fixed mfg. OH costs	1,358	1,358	1,358	1,358	5,433
Total mfg. OH ***costs:***	***1,871***	***2,023***	***2,044***	***1,978***	***7,916***
Less: noncash costs	344	344	344	344	1,378
Cash disbursements for manufacturing, thousand euro	***1,526***	***1,679***	***1,700***	***1,633***	***6,539***

The ending finished goods inventory budget is being 1876 thousand euro and the primary cost of the unit product was determined 171.41 euros for a unit. (Table 8).

Table 8

Ending Finished Goods Inventory Budget

Production costs per unit	Quantity	Cost, euro	Total
Direct materials budgeting	5.0	29.4	147.0
Direct labor per unit	12	1.5	18.0
Manufacturing overhead	2	3.2	6.4
		Prime cost, euro/unit	***171.4***
Budgeted finished goods inventory			
Ending inventory in thousand units			10.95
Unit product cost, euro			171.41
Ending finished goods inventory, thousand euro			**1876.5**

At Company the selling and administrative expenses budget is divided into variable and fixed components. The variable selling and administrative expenses are being 0,8-1,2 per unit sold. Fixed selling and administrative expenses are being 399 thousand euro quarters. The company will have to pay 806 thousand euro selling and administrative expense at the end of the accounting year (Table 9).

Table 9

Selling and Administrative Expense Budget

Components	1 quarter	2 quarter	3 quarter	4 quarter	Annual
Budgeted sales, thousand units	40	55	59	51	**204**
Variable S & A rate, euro/hour	1.0	1.1	1.2	0.8	1.03
Variable expenses, thousand euro	***41.1***	***59.5***	***71.3***	***40.4***	***210.7***
Fixed S & A expenses	399	399	399	399	1,595
Total S & A expenses, thousand euro	***440***	***458***	***470***	***439***	***1,806***
Less: Noncash expenses					
Cash S & A expenses, thousand euro	**440**	**458**	**470**	**439**	***1,806***

On 1 January, the cash balance has been 392 euros. The company was being maintained a loan of credit for 9,932 thousand euros. In every quarter they are paying a cash interest of 145 euros. However, the company is received a cash interest of 650 in every quarter. The company should focus expected that prepayments are received cash of 11,100 thousand euros at years. The ending cash balance is being 3,272 thousand euros (Table 10).

Table 10

The Cash Budget

Components	1 quarter	2 quarter	3 quarter	4 quarter	Annual
Beginning cash balance	392	473	686	431	392
Add: Cash collections	3,792	7,871	9,264	14,142	35,070
Total cash available	***4,184***	***8,344***	***9,950***	***14,573***	***35,462***
Less: Cash disbursements					
Expected cash disbursement for materials	*4,477*	*6,351*	*7,723*	*6,341*	***24,892***
Direct labor budget	*738*	*1,002*	*1,032*	*960*	***3,732***
Manufacturing overhead budget	*1,526*	*1,679*	*1,700*	*1,633*	***6,538***
Selling and administrative expense	*440*	*458*	*470*	*439*	***1,807***
Purchases					
Total disbursements	***7,181***	***9,490***	***10,925***	***9,373***	***36,969***
Excess (deficiency)	**-2,997**	**-1,146**	**-974**	**5,200**	**84**
Financing:					
Borrowing	-2,483	-2,483	-2,483	-2,483	-9,932
Prepayments received	5,700	2,500	2,900		**11,100**
Interest paid	-145	-145	-145	-145	-580
Interest received	650	650	650	650	2,600
Total financing	***3,722***	***522***	***922***	***-1,978***	***3,188***
Ending cash balance	**725**	**102**	**50**	**3,272**	**3,272**

After the ending of budgeting reports, it can be noticed, that the company should expect 1,620 thousand euros of income profit in the next year. Also, the company should be expected that it will have been earned 4,006 thousand euros gross margin and also it will have been earned 2,200 thousand euros operating income (Table 11).

Table 11

The Budgeted Income Statement

Sales	38,958
Cost of goods sold	34,952
Gross margin, thousand euro	**4,006**
Selling and administrative expenses	1806
Operating income, thousand euro	**2,200**
Interest expense	580
Net income, thousand euro	**1,620**

After the ending of the budgeting income statement, it can be noticed, that the shareholders of the company will be earned 1,210 thousand euros of retained earnings in the next years. It will be less than was a plan to earn because of the company last year, it incurred a loss of 410 thousand euros. Another data of the Balance statement (fixed assets, common stock, other payable, etc.) was taken from the financial data of companies at the end of 2018 years (Table 12).

Table 12

The Budgeted Balance Sheet

Current assets	Thousand euro
Cash	3,272
Accounts receivable	1,457
Raw materials inventory	805
Finished goods inventory	1,876
Total current assets:	***7,410***
Fixed assets	
Intangible assets	16,618
Tangible assets	1,604
Total fixed assets:	***18,222***
TOTAL ASSETS	**25,632**
Accounts payable	2,908
Other payable	9,630
Common stock	11,884
Retained earnings	1,210
TOTAL LIABILITIES AND EQUITIES	**25,632**

After analysis of the budgeting process, we notice that the master budget is an important fact for the company, for-profit what they can expect next year. Also, the master budget can inform about cash which the company plans to expect get from customers and at the same time she can control her cash disbursement to suppliers, workers, and other payables.

Conclusions

Analysis of the scientific literature, we indicate that most of the authors examining the issues of budget preparation in companies introduce a budget as an important tool of profit planning; it is helping to the formulation of a comprehensive plan of action: to control the disbursement expenses; control revenues necessary to support the business; to determine financial sources, etc. Basically a master budget is divided into two parts: operational budget and financial budget. The most commonly mentioned elements for the operational budget are sales, production, direct material cost, direct labor cost, manufacturing overhead cost, cost of goods sold and selling and administrative expenses budgets. The most common suggestions for the financial budget are cash budget, budget balance sheet, and budget income statement.

After the formation of the master budget to the “Snaige” company, it was found that the company will have been expected to sell 204 thousand units of product and it will be earned 38,958 thousand euros of turnover. Also, the company should expect cash collections of 35,070 thousand euros from customers. To achieve these sales results the company would need to buy 1,041 thousand units of required materials. It would cost about 30,603 thousand euros and it would need to pay approximately 24,892 thousand euros. After an analysis of direct materials purchasing, we indicate, that another cost would include the salary of workers 3,724 thousand euros, the manufacturing overhead 6,539 thousand euros, selling and administrative expenses 1,806 thousand euros. It is important to note that the company last year incurred a loss and this budgeting process shows the way to earn a profit of 1,210 thousand euros. The most important budgeting process is the result of the cash budget. This budget indicates that the company would need to search financing sources and it would need to prepare new agreements conditions to customers for prepayment received. Another way to cover cash deficiency is would be borrowing from financial institutions.

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