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MANAGEMENT ACCOUNTING PRACTICES EVIDENCE FROM TURKEY

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İŞLETME Anabilim Dalı MUHASEBE FİNANSMAN(İNG) Bilim Dalı Doktora öğrencisi HAMDİYE TUBA ŞAVLI nın MANAGEMENT ACCOUNTING PRACTICES EVIDENCE FROM TURKEY adlı tez çalışması ,Enstitümüz Yönetim Kurulunun 20.10.2005 tarih ve 2005-15/12 sayılı kararı ile oluşturulan jüri tarafından Doktora Tezi olarak kabul edilmiştir.

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PREFACE

Increasing competition under globalization has certain effects on Turkish Accounting System. Especially after the official application to European Union (EU), many changes have been experienced in accounting side as well. Capital Market Board regulations for publicly traded companies requires application of IFRS or communiqué no:XI/25 which is similar to IFRS with certain exceptions. Draft commercial code requires all companies in Turkey to follow Turkish Accounting Standards which are in fact prepared as translation of IFRS.

Since there are standardized regulations for financial reporting, it is easier to follow the developments and adopt yourself. However, for management accounting there are no standard rules to apply, each organization should develop its own system based on the needs which are actually affected by high competition and globalization. Under the pressure of competition, management would like to have more accurate and timely data in order to manage the business risk faced and correct actions. That is why strategic management accounting practices are developed especially during last decade.

Within the scope of this thesis, it is aimed to briefly review development of management accounting practices in Turkey and draw its current picture. Based on the pictures of past and present, development needs and suggestions will be pointed out.

I hope that this thesis will be a worth-while study for all interested parties.

H. Tuba Şavlı
İstanbul, 2006

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ABSRACT – ENGLISH

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ABSTRACT

During last decade, management accounting in Turkey experienced significant developments under the effect of worldwide trends. Companies started to use strategic management accounting tools like Activity Based Costing (ABC), Economic Value Added (EVA), Balanced Scorecard (BSC), etc. Under these developments, the purpose of the thesis is to review the historical development of management accounting in Turkey and in the world, draw current picture of management accounting in Turkey with a survey and comment on development needs in order to be in line with worldwide developments. Survey conducted within the publicly traded non-financial corporations in Turkey showed that although budget is still the most important management accounting tool, companies are also aware of new strategic management accounting tools introduced during the last two decades. Percentage of companies who use ABC, EVA and BSC is not very different from worldwide trends. Company managements are enthusiastic in developing their current management accounting system. Although greatest importance is given to the improvement of IT system used, training needs for users and introduction of new management accounting tools to managers are also noted by participants.

ABSTRACT – TURKISH (ÖZET)

GENEL BİLGİLER

İsim ve Soyadı	: H. Tuba Şavlı
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ÖZET

Son on yıllık dönemde Türkiye'deki yönetim muhasebesi uygulamaları, dünyadaki değişimin de etkisiyle önemli bir gelişme göstermiştir. Şirketler Faaliyet Tabanlı Maliyetleme, Ekonomik Katma Değer, Dengeli Puanlama Sistemi gibi stratejik yönetim muhasebesi araçlarını kullanmaya başlamışlardır. Bu gelişmelerin ışığında, tezin amacı yönetim muhasebesinin dünyada ve Türkiye'deki tarihsel gelişiminin incelemesi, yapılacak bir anket çalışması ile güncel portrenin çizilmesi ve dünya uygulamaları ile uyumlu olabilmek için atılması gereken adımların belirlenmesi olarak tespit edilmiştir. Türkiye'de finansal kuruluşlar dışındaki hisseleri borsada işlem gören şirketler arasında yapılan anket çalışması Türk şirketleri arasında en çok kullanılan yönetim muhasebesi aracının bütçe olduğunu, ancak bunun yanı sıra şirket yöneticilerinin son yıllarda gelişen yeni stratejik yönetim muhasebesi araçlarından da haberdar olduklarını göstermektedir. Faaliyet Tabanlı Maliyetleme, Ekonomik Katma Değer, dengeli Puanlama yöntemlerini kullanan şirketlerin sayısının dünya genelindeki gelişmelerin çok dışında olmadığı gözlemlenmiştir. Şirket yöneticileri kullandıkları yönetim muhasebesi sistemini geliştirmek konusunda oldukça istekli olduklarını göstermişlerdir. Geliştirilmesi gereken konular arasında kullanılan bilgi teknolojilerinin gelişimi en önemli sırayı almakla birlikte, kullanıcıların eğitilmesi ve yeni yöntemlerin yöneticilere tanıtılması konuları da dile getirilen hususlar arasındadır.

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LIST OF ABBREVIATIONS

AAR	Accounting Application Regulations
ABC	Activity Based Costing
ABM	Activity Based Management
AICPA	American Institute of Certified Public Accountants
BBRT	Beyond Budgeting Round Table
BSC	Balanced Scorecard
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CMB	Capital Market Board
ERP	Enterprise Resource Planning
EVA	Economic Value Added
FIFO	First in First out
IAS	International Accounting Standards
IT	Information Technology
IFRS	International Financial reporting Standards
IMA	Institution of Management Accountants
JIT	Just in Time Management
ROI	Return on Investment
RI	Residual Income
WIP	Work in Process
US GAAP	Generally Accepted Accounting Standards in US

1. INTRODUCTION

In accounting lectures and text books, the users of financial statements are usually classified into two and generally listed as follows:

- External Users:
  - Government Authorities
  - Creditors
  - Investors
  - Owners / shareholders
- Internal Users:
  - Management of the Company

Looking into accounting practice, there are always certain accounting rules that companies need to follow in order to compute its tax obligation as stated by government authorities through tax legislation.

There are always certain accounting standards published that the publicly traded companies will follow so that the published financial statements will be comparable and will give a fair presentation of the company for those investors and creditors who are interested in the financial position of the company. Capital Market Board Regulations in Turkey, International Financial Reporting Standards in European Union and US GAAP in USA can be given as examples.

What are the standards for managers or owners of the company, i.e. internal users? Are there any generally accepted accounting standards for them? Unfortunately and fortunately, there are no such standards. It is fortunate because, the needs of each user, due to the nature of the business or due to the purpose of the user, may be different and the company may need to design its own internal reporting system to meet those needs. It is unfortunate because, for small sized owner-directed companies, those systems are not established well. In the absence of certain financial and non-financial information derived for management, how can management and/or owners decide on performance of the company and each business unit in the company? Without being able to analyze the past performance, how can they decide on future plans? How can goals of the entity be established?

Management accounting is developed to fulfill those needs. Greater analysis and better presentation of historic financial data has been encouraged, and far more attention has been paid to accounting. Record keeping, as described by Pacioli, is being placed in its perspective as an essential tool to provide management with information to check the results of decisions and predictions. As the development of accounting, it took certain period of time for management accounting to have its current meaning and importance.

The company management would like to obtain necessary information that will be useful in planning, managing and controlling activities in a timely manner from management accounting system. Therefore, management accounting is not a set of historical accounting data but a future oriented reporting system.[1]

Within this thesis, development of management accounting in the world and in Turkey will be analyzed. And by delivering a questionnaire to publicly traded non-financial companies, we will try to picture the current portrait of management accounting in Turkey. We will have a chance to compare Turkish practice with those worldwide trends and may comment on future development needs.

In this context, next section will briefly summarize historical development of management accounting in the world. Development of management accounting in Turkey will be summarized based on experience of certain professionals in accounting sector. Results of literature survey will be presented in third section. Within the literature survey section, traditional management accounting techniques will be followed with strategic management accounting practices and new approaches. Fourth section reflects the survey results in Turkey in comparison with worldwide trends. Finally, in the fifth section survey results are evaluated and suggestions for the improvement of management accounting practice in Turkey are documented.

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[1] Alparslan Peker, Modern Yönetim Muhasebesi, İ.Ü. İşletme Fakültesi Muhasebe Enstitüsü Yayın no:53, 1988, p.13

2. HISTORICAL DEVELOPMENT OF MANAGEMENT ACCOUNTING

2.1 Management Accounting

International Management Accounting Statements defined management accounting in 1989 as:[2]

"the process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of financial information[3] used by management to plan, evaluate and control within the organization and to assure appropriate use and accountability for its resources."

However, within time both the scope and role of management accounting is changed and Institute of Management Accountants (IMA) defined as:

"Management accounting is the internal business-building role of accounting and finance professionals, who design, implement, manage, and report on internal accounting systems that support effective decision support, planning, and control over the organization's value-creating operations. Management accounting and finance professionals directly support an organization's strategic goals. Management accounting is about creating value, not just measuring it."[4]

Management accounting provides information to the people working inside the organization. The purpose is to increase effectiveness and efficiency within the organization through providing necessary information to decision makers.[5]

Since management accounting mainly addresses the internal users, it is more flexible and not subject to generally accepted standards. However, there are certain tools generally used by companies with certain modifications based on special needs of companies. [6]

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2 International Management Accounting Statement – 1, Management Accounting Concepts, p.99, www.ifac.org
3 Revised as "both financial and operating" in March 1998
4 What is management accounting? www.imanet.org
5 Colin Drury, Management and Cost Accounting, Thomson, 2004, p.7
6 Caerl L. Moore and Robert K. Jaedicke, çeviren Alparslan Peker, Yönetim Muhasebesi, İstanbul, 1980, p.1

2.2 Management Accounting and Financial Accounting

While management accounting is mainly focused on needs of internal users, financial accounting prepares required data for external users like government authorities, creditors, investors, etc.

Major differences between management accounting and financial accounting can be summarized as follows:[7]

- There is a legal requirement for financial reporting. However, management accounting is optional is designed based on the needs of the management.
- Financial accounting covers the whole company; whereas management reports can be prepared for separate departments or business units.
- Financial statements are prepared in accordance with predetermined accounting standards, like Generally Accepted Accounting Standards in US (US GAAP) or International Financial Reporting Standards (IFRS). For management reporting, on the other hand, there is no generally accepted management accounting standards. Management needs define the coverage and extend of management reporting.
- Financial statements prepared for external users are based on historical data and reflect company's past performance. Management accounting, however, concentrates on future operations.
- Usually annual financial statements are prepared for external users. However, frequency of external reporting increased to quarterly reporting in certain environments. For management accounting, on the other hand, reporting may be monthly, weekly or even daily.
- Validity and flexibility is more important for management accounting. Furthermore, certain assumptions and rough computations might be used in management accounting to provide the data as soon as possible. In financial accounting, however, accuracy and objectivity are more important.

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[7] Drury, p.7-8; Cudi Tuncer Gürsoy, Yönetim ve Maliyet Muhasebesi, Beta Basım Yayım Dağıtım A.Ş., 1999, p.3-5

2.3 Management Accounting in History

Although it is not in the format of modern accounting system, historians noted that the oldest accounting documents found in old Egypt from B.C. 3400.[8] It was necessary to record the payments made to armies of the king. The payments were not in terms of money, but in terms of cattle and precious stones. It is also noted that Egyptian civilization also had some record related to the building of pyramids. It is interesting to note certain documents giving the details of cost of nails needed to make the slaves' shoes.[9] This simple documentation may be considered as the birth of cost accounting. Those documents coming from the Egyptian civilization may be considered as simple and non-standard, however, it should also be considered that there was no other numerical system or money introduced. Furthermore, trade was not sufficiently developed to necessitate more complex systems.

The Greek and Roman periods show some advances in accounting. The adoption of money as the valuation and exchange tool in the sixth and fifth centuries BC made it possible to record the transactions in terms of particular system of currency. In those days, however, all receipts and payments were documented in a narrative format. In a text written, receipt and payment amounts were also documented. In ancient Greek society, a profession like public accountants is observed. The Roman Empire incorporated record keeping to their financial administration and accounting system.[10]

Arab traders of the seventh and eleventh centuries A.C. visited the India very often and recognized the numerical system derived by Hindus. Such "Hindu-Arabic" system made it possible for them to list the figures in a single column instead of scattered in a text. And then advantages of having two clear columns to facilitate the computation were realized.[11]

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[8] Münir Şakrak, Maliyet Yönetimi: Maliyet ve Yönetim Muhasebesinde Yeni Yaklaşımlar, Yasa Yayınları, 1997, p.24

[9] Arthur Andersen Training Materials, Local Office Basic Accounting Course, 1991, p.I-5

[10] The Oxford Encyclopedia of Economic History, Oxford University Press, 2003, Volume I, p.2

[11] Arthur Andersen, p.I-6

Industrial developments and establishment of partnerships are considered as important affects on development of accounting in 17th and 18th centuries in Europe. In 19th century, series of economic and social events give rise to an expansion of trade and contributed development of accounting system. The extended system of ownership (partnerships, limited liability companies) necessitated government legislation to provide some minimum standards of accounting. Rapid industrialization, with the accompanying heavy investment in plant and machinery and associated complex manufacturing process, gave rise to the development and expansion of that part of accounting normally referred to as “cost accounting”.[12]

Until nineteenth century, the trading activities were quite simple. Owner entrepreneurs used to buy certain raw materials and/or products from suppliers and sells to other people in the market. As long as they pay less to the suppliers than they get from customers, they make profit.[13] No need for further analysis. Considering the trading activities of today and of those days, it is obvious that increasing type of transactions would give rise to additional book keeping needs.

Accounting records have even been prepared in ancient civilizations and there were certain initial examples of cost accounting in Egyptian history as well. Those examples and following developments show that management accounting existed much before defined accounting standards for financial reporting. It is not a new concept as thought.

Looking into more recent period and development of management accounting as it is understood today, progress in management accounting starting from nineteenth century will be discussed in detail below.

2.3.1 Management Accounting in Nineteenth Century

Decision making and control are basic components of management accounting both in USA and UK.[14] Although there are well-known British theorists exist,

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[12] Nalan Akdoğan and Hamdi Aydın, Muhasebe Teorileri, Gazi Üniversitesi, İİBF yayın no:44, Ankara, 1987, p.65-69

[13] H. Thomas Johnson and Robert S. Kaplan, Relevance Lost, Harward Business School Press, Boston, p.6

[14] Richard K. Fleishman and Thomas T. Tyson, The Evaluation of Standard Costing in the UK and US: From Decision Making to Control, ABACUS, Vol.34, No.1, 1998, p.92

the practical applications of costing for decision making are developed in United States.[15]

Increasing trading activities in nineteenth century, especially after industrial revolution, resulted in convergence from owner – managed small firms to larger corporations with certain number of long-term employees and certain amount of capital invested.[16] Accordingly it was not possible any more to measure success through cash paid to daily workers and suppliers and cash collected from customers. Having employees and capital invested on hand, single entrepreneur firms became corporations to be managed. Looking into different ages of nineteenth century, following categorization can be made for educating examples of that era[17]:

i. First half of nineteenth century – textile mills

ii. Mid-nineteenth century – railroads

iii. Second half of nineteenth century – steel companies

Initial examples were quite simple but well enough to serve management / owners needs. Depending on the nature of the activity being involved, management accounting reports provided information regarding cost per hour, cost per unit produced for each process and for each worker. Costs included in those analyses were cost of material, cost of labor and certain overhead costs. However, initial examples found did not reflect any depreciation type of expenditures. Management reports of those 3 different industries, accepted as initial management accounting examples, were of course different from each other. Cost per pound produced could be good indicator for a textile company, however, may not mean too much to a railroad company. Rail road company, on the other hand, would probably analyze profitability per passenger or per region. Retail industry also contributed to development of management accounting with solutions to different needs resulting from widespread organizations. [18]

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[15] Richard K. Fleishman and Thomas T. Tyson, Cost Accounting During the Industrial Revolution: The Present State of Historical Knowledge, Economic History Review, XLVI, 1993, p.503
[16] Johnson and Kaplan, p.7
[17] Johnson and Kaplan, p.7
[18] Johnson and Kaplan, p.19

At the beginning of the twentieth century, important developments have been observed in management of multi-activity, diversified corporations. It was of course easier to measure the success of the operations and/or performance of managers when there is a single activity. When number of activities increased as corporations started to invest in different processes, it became also important to decide on which process to invest further. Return on investment started to became an important indicator. Accordingly further analyses and management reports were required to support management decisions.

With the increased external financing through financial institutions and/or public shares, demand for audited financial statements increased as well. Auditors with quite conservative approaches preferred standard, well defined and easy to prove methods to be used in cost accounting while preparing the financial statements. Therefore, cost accounting for financial reporting was established on historical cost basis, which for the most cases did not give relevant information to management.

Below developments in management accounting which actually started and developed in United States will be explained in detail taking into consideration certain companies. Those companies are analyzed and discussed in various management accounting texts.

Textile factories established after 1812 used cost accounts to reflect convergence process of direct labor, raw material and overhead costs to finished good products. Those are considered to be the first American business organizations to develop management accounting systems. Those were integrated firms combining more than one production process within the factory. [19]

When there is only one production process, companies used to refer to market prices for the products used instead of analyzing the cost components of the products. Furthermore, at the beginning the employees were not wage-earners for a fixed period. They were paid based the work performed (i.e. number / quantity of products produced) on daily market prices. However, as the production volume extended, companies preferred full-time employees for whom a fixed wage is paid. Then instead of market rage of daily payments to workers, managers focused on certain analysis giving actually the performance of employees, in other words efficiency of the employees. Number or quantity of production per hour can be an example for such analysis. Furthermore, small size manufacturing units turns out to be large integrated firms having more than one production process. In this case having market price of the end product was not enough for management purposes, they also would like to know the value of internally generated intermediate outputs. Accordingly, records kept to value intermediate products turned out to be the initial examples of cost accounting.[20]

In management accounting literature, 2 companies are discussed as initial examples of keeping cost records; namely, Boston Manufacturing Company and Lyman Mills Corporation. In Boston Manufacturing they both have spinning and weaving in their production process. They were the first who used complex accounting records for costs and those were copied and improved by other companies as Lyman Mills Corporation. [21]

Lyman Mills had two different locations, one as head office and the other one as mill agent. Although company accounts (ledger and sub-ledger accounts) are kept at head office, certain production data such as inventory, payroll and other production related expenditures were also followed in mill agent. Periodically such records were reconciled. Although production related expenses were kept in agent, sales and general administrative expenses (non-manufacturing expenses) and property, plant equipment, long-term liabilities, capital, etc. were kept in head office. Semi-annually they closed the books to see net profit / loss for the period. Furthermore, separate accounts were kept for different production processes in mill agent. General expenditures of the mill have been allocated to those accounts with certain criteria. They used different allocation criteria (e.g. floor space, number of looms, horse power of water turbines) for such costs. Having such detail book keeping system, it is interesting to see that, in balance sheet, finished good inventories have not been valued at cost (identified after above mentioned allocation) but reflected at market

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[19] Alfred Dupont Chandler, The Visible Hand: The Management Revolution in American Business, Belknap Press, Cambridge, 1977, p.68
[20] Johnson and Kaplan, p.21-22
[21] Johnson and Kaplan, p.24

value. Furthermore, depreciation is not computed and reflected in financial statements, rather property and equipment were directly charged to profit and loss statement. [22]

Reflecting inventories at market price in the balance sheet while having detail cost analysis, indicate that the Company's aim was to assess employee performance while preparing detail records of costs and preparing monthly production reports for each mill. Such analysis and reports helped managers to evaluate their internal system and moreover encourage employees to improve their efficiency.[23]

Passing through the second half of nineteenth century, steel companies take attention in terms of management accounting progress. Carnegie Steel Company (1872 - 1902) is the one that is discussed by many accountants in the literature. Following statement of Andrew Carnegie reflects how much he cared about cost information:

"Watch the costs and the profits will take care of themselves."

Detail costs sheets were prepared, so that each department would know cost of materials and cost of labor before the items moved to the other department. Through this system, Carnegie both controlled the quality of the products and evaluated the performance of department managers and foremen. His aim was to decrease costs to level which is less than his competitors, so that he will be able to charge a lower price to have enough demand to run the business. [24]

Although Carnegie was cost oriented entrepreneur, and required periodical cost information at different levels, records indicate that he did not pay much attention on cost of long-lived assets. Although detail information was prepared for direct costs such as cost of labor and cost of material, cost sheets did not include depreciation as the cost of long-lived assets.[25]

Another industry having significant affect on development of management accounting is considered to be the railroad industry.

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[22] Johnson and Kaplan, p.28-30
[23] Johnson and Kaplan, p.31
[24] Chandler, p.267-268
[25] Johnson and Kaplan, p.34

Comparing the size of railroad companies with textile firms of early eighteenth century and steel companies of later decades, it is obvious that railroad companies were much bigger. Both accounting and management issues came across, accordingly, were more complex and significant in those huge transportation companies. They need to improve their management accounting techniques, so that they will be able to manage the company properly. They need to establish internal control systems to control the entity.[26]

While we have discussed textile mills, we have noted that they both have bookkeeping systems in head office and mill agent. So they established a system to follow cost accounts in mill agent and other administrative expenditures, liabilities and capital in head office. Important point was that they periodically reconcile those 2 sets of accounts. Looking into railroad industry, there are more than 2 units that need to be accounted separately and furthermore, those records should be consolidated. Tickets may be sold at any station, cash collected at each station as well. So they both need to account for those transactions, and establish a control system on company's assets, i.e. cash on hand.

Looking into records of railroad companies, it was noted that they used pre-numbered ticket and invoice systems. They used telegraphs to transfer the information regarding transactions in that station and to transfer the money as well.[27] It is worth to note that still today, using pre-numbered invoices, good departure notes and other documents are considered important part of the internal control procedures that cannot be abandoned.

Having different operations from those of textile and steel companies, they used different criteria to evaluate the performance of the business, subunits and managers. Manufacturing companies had finished goods that are sold. However, railroad companies being service organizations did not have any product on hand, but they sold transportation services.

[26] Johnson and Kaplan, p.34-35
[27] Johnson and Kaplan, p.35

Louisville and Nashville Railroad Company was the first who used "cost per ton-mile" as one of the criteria to assess performance. They have categorized costs into 4 groups[28]:

1. Maintenance and overhead costs not affected by volume of traffic
2. Cost of station personnel affected with the number of customers but not with the number of miles
3. Fuel and operating expenses affected with the number of miles
4. Fixed costs like interest expense

Having classified expenses to those 4 categories, they worked on certain cost formulas so that they will be able reflect costs at each subunit with cost per train-mile. Through this system they were also able to identify the differences in costs between subunits. Due to the diversified management system, they also used those cost accounting tools as management tools for performance measurement purposes. They used operating ratios to analyze the affect of each subunits performance on overall performance of the company.[29]

Although they used cost information to control the subunits far from the head office, to evaluate the performance of the managers, etc., they have not tried to analyze the cost of capital, and accordingly, did not follow cost of property and equipment as depreciation expense in its cost sheets. Property and equipment purchased are followed on the balance sheet until it is replaced with a new one. All maintenance expenses, on the other hand, were recorded as expense when incurred. Therefore, when a railroad is build, the only concern was to manage it as profitable as possible. But they did not consider whether it was worth to build this road in this direction, or whether another alternative road would be more profitable because cost of building the road would be lower.[30]

Besides the textile, steel and railroad companies that are considered to be the builders of management accounting in nineteenth century single activity companies,

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[28] Chandler, p.116-117
[29] Johnson and Kaplan, p.37
[30] Johnson and Kaplan, p.38

retail companies also contributed to development of management accounting. Those companies mainly focused on economies of scale. They tried to charge lower prices and increase the volume of sales and profit accordingly. Therefore, cost control was very important for those companies. They need to establish well-defined internal control procedures. Although they were also involved mainly in one single activity, operations have been managed through several departments. So they need to follow performance of each department separately. Hence they preferred to manage each department as a single company. They also did not very much concentrated on cost of capital as did the textile, steel and railroad companies. However, compared to others, amount of their property and equipment investment was less. They, on the other hand, paid more attention on stock turnovers on different type of goods. Based on those analyses they decided what to buy and sell.[31]

2.3.2 Management Accounting in Early Twentieth Century

Coming through the twentieth century, there are two main companies that are considered to be the designers of management accounting in the twentieth century. Namely;

i. The Du Pont Powder Company (Du Pont)

ii. General Motors

The examples discussed above during the nineteenth century were mainly engaged in single activity. In early twentieth century, certain activities combined in single entity company for which management became more difficult and required new techniques to be developed. Du Pont was one of them. It is obvious that management of multi-divisional firm is more complex than a single activity firm. They need to modify the management systems used by single activity firms, so that they will be able to control different activities / divisions of their firms.

At the beginning of the century, for those who combined separate activities within a firm, the activity actually was still single, but one department produced the

[31] Johnson and Kaplan, p.38-41

input for the other department. Those were vertically integrated companies as called by accounting historians.

In vertically integrated companies, one important point was to manage the flow of resources from one department to the other. Accordingly, first action taken by executives was to introduce budgets to control the internal flow of resources. Then they started to use a new parameter to assess the success of each department which was return on investment.[32]

Du Pont which was founded by three cousins was also one of the first examples of leveraged buy-out. Cousins purchased the assets of a powder company in return for bonds issued by the new company established by the cousins. Based on the transaction, old owners of the assets will receive expected earnings of the old firm. Therefore, cousins will be able to make money, only if they manage to earn more than the old company. Accordingly, they need to manage the new company as efficient and profitable as can be. They made radical changes in the way of doing business. They have purchased additional operation in which Du Pont had certain interest and control. Then they merged those companies under one single company. Old separate firms started to work as separate departments of Du Pont. Having a complex structure required more effort of the central management. [33]

As also discussed before, single activity firms of the previous century did not considered return on investment. For the managers of those companies, since there was only one activity they were not in a position to assess return on investment or to compare with return of investment of another business. However, when there are more than one activity within a company, then return on investment becomes an important parameter while deciding for further investments. The owner need to know which activity is making more money and accordingly decide on which area they will make further investments.

Du Pont is considered the first company who used return on investment as a management accounting tool. As it was top management's responsibility to allocate the resources to different activities / departments, return on investment reports were

[32] Johnson and Kaplan, p.64
[33] Johnson and Kaplan, p.66-68

provided to top management only. Departmental managers on the other hand required to achieve efficiency within their departments.[34]

Another company having significant affect on development of management accounting was General Motors. It is worth to note that one of the founders of Du Pont Company, Pierre Du Pont became president of General Motors after fail of previous president. After Pierre joined the company, certain changes in management structure and perspective are observed. Since each division was managed by its managers as if it was a separate company, it was important to combine the objectives of each division with those of the entire company or objectives of shareholders of the company.

As described by the General Motors management they established a system which is “centralized control with decentralized responsibility”. They first required annual operating forecasts for each division so that they will be able to compare divisional goals with company’s goals. Then they required sales reports and flexible budgets. By comparing budgeted figures with actual sales, they assessed to what extend they reached their target. Flexible budgets, on the other hand, helped top management to analyze divisional performance measurement. Furthermore, the management accounting system established enabled top management to allocate company resources to departments based on standard criteria.[35]

Within the management accounting system established in multi-divisional General Motors, another important tool introduced was “standard price”. The standard price was the factory-delivered price that a division had to charge at standard volume in order to earn the standard return on investment.[36]

In UK, on the other hand, Garcke and Fells’ Factory accounts are also considered as leading practices in management accounting, especially in terms of standard costing. They suggested that cost norms should be established by those who have experience in that process.[37]

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[34] H. Thomas Johnson, Management Accounting in an Early Integrated Industrial: E.I. duPont de Nemours Powder Company, 1903-1912, Business History Review, Summer 1975, p.187
[35] Johnson and Kaplan, p.100-102
[36] Johnson and Kaplan, p.105-106
[37] Richard K. Fleishman and Thomas N. Tyson, Parallels between US and UK Cost Accountancy in the World War I Era, Accounting, Business and Financial History, 10:2, July 2000, p.193

Even today, most of the international audit and/or consultancy firms use standard prices with certain modifications.[*] General Motors management did not use standard prices to determine the actual sales price at market. Rather the aim for using standard prices was to tie divisional decisions with company policy.[38]

Within the established management system, divisions had the responsibility and authority for their daily operations, as long as they are in the limits of company policy. So they are given the financial objectives by top management. Accounting system also managed to motivate divisional managers to comply with company's financial goals.[39]

Management accounting practice in Du Pont and General Motors explain the developments in management accounting until 1925. After that period, effect of economic crises, auditors' role in financial reporting and accounting regulatory bodies established in developed markets such as USA and UK draw the developments through the second half of twentieth century.

Economic Crises of 1929 resulted in certain regulations in accounting and reporting. Certain regulatory bodies were established to frame financial accounting and reporting. In 1929, with the companies' law enacted, companies were required to prepare certain financial reports. On the other hand, certain actions have been taken to improve the financial reporting responsibility of the companies in the USA. In 1930, it is suggested that New York Stock Exchange and American Institute of Certified Public Accountants should cooperate. It is also after 1930 when it was agreed that accounting standards should be prepared by authorized regulatory bodies.[40]

During that period, increasing public offerings and economic crises occurred in capital markets increased the importance of audit. Investors required to obtain audited financial statements. Auditors, on the other hand, required certain standards to be

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[*] Audit firms define standard per hour rates for each level serving the client. Those per hour rates also include expected profit margin. However, based on market conditions certain discounts are given over such rates. One of the important criteria used by top management in evaluating the performance of any office / department is the discounts given over standard rates.

[38] Johnson and Kaplan, p.106-107
[39] Johnson and Kaplan, p.112-113
[40]Akdoğan and Aydın, p.65-69

applied continuously. They preferred financial statements derived from company's double entry book keeping system.[41] Auditors, being conservative, relied on historical records reflecting the cost of the transactions. They rather preferred simple allocation methods, instead of complicated computations. However, using those simple methods they carefully reviewed the allocation between stocks on hand and cost of goods sold.[42]

Relevance of financial information prepared depends on the users of that information. Same report may be valued as well prepared and explanatory by one party may be found irrelevant by others. In nineteenth century, there were only single activity companies funded by own resources. Therefore financial data was prepared and used only by insiders; i.e. managers and/or owners. Furthermore, since they were engaged in one activity only data required was simple and no further return on investment analysis was required. Within time, companies enlarged, started to perform different activities. Then return on investment became an important indicator for managers for their future decisions. Accordingly, financial data required to be prepared extended. Large companies required more capital which was difficult to be submitted by the owners. First those were financial institutions who provided necessary funds to companies. And of course bankers became one of the first third party readers of financial statements. Increasing capital market transactions also increased number of people who are interested in the financial statements of the company. Creditors, investors, government regulators, financial analysts became significant readers for whom integrity and reliability were very important. Having many third party readers increased first preference and than requirement of audited financial statements.

Management, being internal users of financial statements, developed accounting measures and procedures to control the operations of the company. They tried to measure the efficiency and profitability of economic activities performed within the company. After 1960s and 1970s, with increasing importance of financial data prepared for external users, managers also moved their concentration on external financial reports. Procedures developed to produce managerially relevant product

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[41] Paul Garner, Evolution of Cost Accounting to 1925, University of Alabama Press, Berkeley, 1954, p.267-268
[42] Şakrak, p.33

costs in nineteenth century were not used in twentieth century but replaced by procedures developed to value inventories for financial reports.[43]

In nineteenth century, corporate secrecy was an important concept, and company managers, usually owner-managers, were reluctant to share company's financial data with outsiders. Therefore, cost information was prepared for cost management purposes. [44] However, as in twentieth century such information was prepared to value inventories, cost management was replaced by cost accounting especially after the World War I. Requirements of external users, capital markets, tax and other regulatory authorities increased the significance of financial reporting. As a result demand for audited financial reports increased which had the final important affect on management accounting being replaced by financial accounting.[45]

The auditor is not interested very much on precise computation, rather prefers conservative, objective and accordingly auditable data.[46] Auditors prefer pre-established standards and require companies to prepare their financial statements based on such pre-determined accounting standards. As far as company's accounting policies are in line with the accounting standards, the auditor does not question the relevance of the financial statements for management purposes. From the auditor's perspective the important point is that the financial statements should present the company's position and results of its operations fairly, within certain materiality levels, in accordance with the accounting standards and should be applied consistently. Financial statements presented should be comparable with prior year financial statements and with financial statements of other companies. If the accounting policies depend on certain accounting standards, it is easier for the auditor to assess fair presentation.

For example, auditor is interested in differentiation of manufacturing expenses and general administration expenses. However, the auditor will probably pay less attention to the allocation method of manufacturing expenses on product costs, as long as the company consistently applies the same method. However, looking from the management perspective, how to allocate manufacturing costs on products may be

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[43] Johnson and Kaplan, p.125
[44] David F. Hawkins, The Development of Modern Financial Reporting Practices Among American Manufacturing Corporations, Business History Review, Autumn 1963, p. 140
[45] Johnson and Kaplan, p.129-130

quite important while they are in a position to decide on which product line to invest further.

Under the increasing importance of audited financial statements with the enlargement of capital markets, more attention was paid on financial reporting standards and management accounting lost its relevance especially within the mid-twentieth century. Being focused on preparation of financial statements for external users, management did not want to spend additional time and effort for detail complex cost computations. Instead they preferred to apply simple cost models which were less costly.

Considering that the management accounting practices started in late eighteenth century where as financial accounting became important in twentieth century, as Johnson and Kaplan noted, it is not possible to say that "*management accounting is a more recent phenomenon than financial accounting".* Furthermore, it is also contrary to common idea of "*cost accounting was developed to fill a need generated by the financial reporting process*".[47]

2.3.3 Management Accounting in Late Twentieth Century

While we come to 1980s, under the dominance of financial accounting, cost information was being used mainly to prepare the financial statements. Based on the availability of the resources, some companies preferred simple methods to allocate costs to products and services, some used more sophisticated methods. With the help of computers, accumulated costs were than allocated to cost centers sometimes with different parameters. However, while allocating from cost centers to products, the main criteria used is direct labor hours or monetary units related to direct labor. [48]

Under this allocation system, it did not take managers long to understand that, their savings in quality control process, for example, will not contribute much to their department's performance as it will be allocated to each department. However, if they can save from number of personnel working in their department, they will be charged less in terms of overhead allocation which is based on number of labor. Then, of

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[46] Johnson and Kaplan, p.131
[47] Johnson and Kaplan, p.141

course, outsourcing certain services to third parties played an important role in managers' strategies to increase their performance ratings. At the end, companies faced with a situation where 65% of manufacturing costs are allocated based on 4% labor cost.[49]

Auditors, who report on financial statements, give their opinion based on certain predetermined accounting standards. It was not their interest to say that such allocation is misleading for management reporting purposes. However, it was easy to use and explain and therefore, companies continued using direct labor as the main allocation base.

As managers performance is mainly evaluated based on the achievement of certain financial targets, managers started to play with numbers and affect the financial statements in such a way that performance measurements will be better. Although there were certain standards to follow, there were also certain alternative methods defined in such accounting standards. For example, changing the depreciation method from double declining to straight line, changing product costing from FIFO to average, changing accounting estimates such as useful life of property, plant and equipment, discounts rates used for due dated assets and liabilities are all normal practices under accounting standards. However, they affect the financial statements when they are not consistently applied. Executives being valued based on short-term objectives pushed accountants for creative solutions.[50] What is called "window dressing" by auditors became common. Although accounting standards also reacted to this process, it was a valuable tool for managers for a while.

However, there were negative effects of such standards as well. For example, research and development costs are generally expensed in financial statements. In fact, they are incurred for future operations and to reach long-term objectives of the company. If, on the other hand, research and development costs are reflected as expense in current period financial statements while performance measurement is based on short-term financial results, managers will be reluctant to perform certain

[48] Johnson and Kaplan, p.183-184
[49] Johnson and Kaplan, p.189-192
[50] Johnson and Kaplan, p.200-201

research and development activities. Companies suffered from this dilemma in twentieth century.[51]

While US companies were busy with financial reporting and loosing the relevance of management accounting, they started to be affected not only from the economic environment of the USA but also from worldwide trends. Under the affect of global competition they faced certain new applications by Japanese, German, Swedish and Swiss competitors. Those were mainly, *total quality control, just-in-time inventory systems and computer integrated-manufacturing systems*.[52]

Competition required companies to concentrate more on customer satisfaction and cost reduction in order to be able to compete with others in the market and keep demand for their products and services at a certain profitable level. New objectives brought new methods to apply which are then turned out to be called new / modern management accounting techniques.

As discussed before, initial applications of management accounting are even observed during ancient civilizations and management accounting in terms of today's understanding developed mainly in USA, so called modern techniques are developed with the effect of global competition. Accordingly, from USA to Japan many applications gave rise to both practical and theoretical development of new techniques.

IMA summarizes the evolution of management accounting in twentieth century based on the focus of management accounting as follows:[53]

1. Prior to 1950 – main focus of cost accounting was cost determination and financial control. For this purpose mainly budgets were used.

2. After 1965 – main focus was to provide management the information necessary for planning and control.

3. After 1985 – main focus was to reduce waste in resources used. For this purpose processes were analyzed in detail.

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[51] Johnson and Kaplan, p.198
[52] Johnson and Kaplan, p.209-210
[53] International Management Accounting Statement – 1, p.84-85

4. After 1995 – focus changed as value creation through effective use of resources. Value corresponds to customer value, shareholder value and organizational innovation.

Certain management accounting tools developed and used during 1990s and early 2000s will be briefly discussed below.

2.3.3.1 Total quality management

In 1992 total quality management was one of the most popular management accounting concepts that was being discussed. There were mainly two reasons for this discussion. One of them is global competition and the other one is cost of defective products.[54] Actually, those reasons are very much inter-related and the main source is increasing competition. Companies need to sell more at the lowest possible cost, so that they will maximize their profits. To sell more under high competition, they need to attract customers by higher quality. On the other hand, lower sales price is another tool to attract customers. So they need to find ways to decrease cost. It did not took long for company managers to realize that increasing quality does not always result in increased costs but on the contrary it helps decrease costs. Considering the additional time and effort spent for fixing defect goods, it is obvious that the less the defect goods are produced and shipped to the customers, the lower will be the fixing costs (shipping back, reproducing, repacking, shipping forward, etc.). Furthermore, having limited defect goods will also contribute to the reputation of the Company.

In USA, certain acceptable level of defective items was determined and if the company is within those pre-determined limits, it was considered as successful. However, in Japan and some other European companies “zero defect” was taken as target. It was not the case that every company reaches this target, but they were considered as successful in total quality management as they get close to the “zero defect” target.

Target costing was applied in Japan almost 20 years before it was introduced to the world in 1980s with the publications of certain Japanese management accounts in English (Kumagaya, Saitoh, Hiromoto, Tanaka, Monden and Sakurai). This was

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[54] Gürsoy, p.339

explained by academicians as the Japanese businessmen do not like to share their applications with outsiders.[55]

Toyota and Nissan are the two leading Japanese firms that applied target costing. After the World War II, this system was first introduced to Germany and than to the world including USA. [56] However, there are also certain arguments that there are certain examples of quality management applications by Ford in USA and Volkswagen in Germany in 1930s.[57] However, the importance of quality management was not understood by others in USA and Germany well at that time and the concept of total quality management was born in Japan under the concept of "target costing – genka kikaku".

Until 1990s target costing was used by many Japanese firms limited to certain products or departments. After 1990, significant changes were observed in target costing mainly due to the following 3 reasons:[58]

Economic bubble in 1990-1991 -- companies faced difficulties in meeting their customer needs with lower prices. Hence, they need to improve current target costing system to enable their companies being competitive in the market.

Evaluation of Japanese Yen – Between 1993 and 1995 Japanese Yen appreciated almost 50% against US dollar. Therefore, Japanese companies faced with decreasing profits and decrease in exports as their products became more expensive.

Economic crisis in financial sector – Japan economy had a long recession period due to the economic crisis lived in financial sector.

All those negative conditions pushed Japanese companies to improve their target costing system so that they will be able to compete within the global market and survive. The goal of target costing is explained as minimizing life-cycle costs so that long-term profit is maximized.

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[55] Ahmet Vecdi Can, Hedef Maliyetleme: Kuram ve Uygulama, Sakarya Kitabevi, Adapazarı, Mart 2004, p.22-23
[56] Can, p.24-25
[57] Patrick Feil, Keun-Hyo Yook and Il-Woon Kim, Japanese Target Costing: A Historical Perspective, International Journal of Strategic Cost Management, Spring 2004, p.10
[58] Feil, Yook and Kim, p.12

Kaizen costing, on the other hand, is another Japanese management accounting technique which should be considered together with target costing. As stated above, the aim of target costing is to minimize costs. What kaizen costing does is to decrease costs of each cycle. Hence they are trying to achieve the same objective; decreasing costs and increasing profits.

2.3.3.2 Just-in-time management

Every businessman is aware of cost of keeping inventory on hand. However, as it takes certain time to obtain raw materials ordered, to complete the production, to ship end products to customers, companies need to have certain amount of stocks on hand. Furthermore, they also need to consider any possible failure during the production process. They try to minimize the stocks on hand but meanwhile they need to have enough stocks to meet customer needs. Simply they try to optimize the level of inventory on hand. Financial analysts, being aware of the cost of keeping inventory, look at different financial ratios and try to comment on company's performance in managing stocks.

Japanese on the other hand, did not focused on optimizing the level of inventory, but they tried to get rid of it.[59] Using this system also requires high quality in all stages of operation from purchasing to shipment. This may be the reason why such system is introduced by Japanese who also lead the use of total quality management.

The system is designed as such that raw materials purchased will be the actual amount that will be used in production. Total output of stage I will the input of Stage II. And finally total finished goods will be the exact order of customers. Accordingly, there will be no inventory on hand at any stage. This will reduce cost of capital investment, cost of storage, shipment and since higher quality is required also reduce other costs.

Theoretically it is very effective system. However, in practice it is not that easy to apply. Management accounting must support just-in-time manufacturing by monitoring, identifying and communicating to decision makers any delay, error and

[59] Johnson and Kaplan, p.212

waste in the system.[60] Modern management accounting systems give greater emphasis on providing relevant information on supplier reliability, set-up costs and times percentage of deliveries on time or delays, and defect rates.[61]

2.3.3.3 Computer integrated manufacturing systems

Although application of total quality management techniques is not dependent on computer integrated systems, it is the industry expertise that computer controlled manufacturing processes improved quality and reliability. Companies started to use robots, computer aided manufacturing techniques and flexible manufacturing system. Hence, the portion of direct labor in total cost is decreased whereas overhead costs increased. Computer integrated systems also helped flexible manufacturing without suffering from economics of scale. [62]

2.3.4 After "Relevance Lost"

In "relevance lost" Johnson and Kaplan mainly criticized the allocation method of overhead costs and hence noted that inaccurate product costs were causing to incorrect decisions by managers. After some researches, discussions focused on product costing. Activity Based Costing (ABC) or better to say Activity Based Management (ABM) was one of the mostly discussed managerial tools.

2.3.4.1 Activity Based Management / Costing

Many authors in 1980's criticized traditional cost management systems indicating that they do not give correct information to managers and accordingly do not serve company's needs. Reviewing the literature in detail three names are especially noted; Robert Kaplan, Robin Cooper and Thomas Johnson. They have criticized the way overhead cost were allocated to products and suggested alternative more meaningful methods to reflect the actual cost of each product.

ABC actually became known and started to be applied by big multinationals in late 1980's after the introduction by articles of those 3 leader accounting authors.

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[60] Anthony A. Atkinson, Rajiv D. Banker, Robert S. Kaplan and S. Mark Young, Management Accounting, Prentice Hall, New Jersey, p.244
[61] Drury, p.911
[62] Johnson and Kaplan, p.216-217

Kaplan and Atkinson defined the goal of ABC as follows:[63]

"The goal of ABC is not to allocate common costs to products. The goal is to measure and then price out all the resources used for activities that support the production and delivery of products and services to customers."

Within ABM, first step is to identify operating activities. Then, what resources are consumed by each activity and how they are consumed are identified. After each activity and costs of those activities are determined, they are classified as adding value or not adding value. Under the ABM approach, one of the objectives is to get rid off the non value adding costs. [64] Companies should prefer to invest in value adding activities so that their product will have competitive advantage in the market either through cost reduction through elimination of non- value adding activities or preference in the market created through investing in value-adding activities. Then allocation of costs from activities to products is done based on the consideration of how much a product benefits from each activity.

One of the objectives of management accounting is performance measurement both at the company level and employee level. Therefore all critics on traditional management accounting and/or costing techniques ended up with certain new performance measurement techniques, as discussed below.

2.3.4.2 Economic Value Added

Economic Value Added (EVA) was mainly used to assess the performance of the whole company, a department or for feasibility analysis of planned investments.

Although concept of residual income has been introduced much earlier, it did not get wide publicity. However, EVA, practically the same concept, has gained popularity in 1980s.[65] The concept of EVA was popularized and then trade-marked by Stern Stewart and Company in 1980s.

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[63] Robert S. Kaplan, Anthony A. Atkinson, Advanced Management Accounting, Prentice Hall, 1998, p.97
[64] Belverd E. Needles, Marian Powers, Susan V. Crosson, Principles of Accounting, Houghton Mifflin Company, 2002, p.943
[65] Esa Makelainen, Economic Value Added As a Management Tool, Work-paper, Helsinki School of Economics, Finland, 1998, p.7

EVA is defined by Stewart as:[66]

"net operating profit minus an approximate charge for the opportunity cost of all capital invested in an enterprise"

"EVA is an estimate of true economic profit, or the amount by which earnings exceed or fall short of the required minimum rate of return that, shareholders and lenders could get by investing in other securities of comparable risk."

While shareholders invest in a business, they are planning to earn money. They consider the risk associated with the business and estimate an average earning from their investment. Therefore they would like to see whether the business is making money to fulfill their expectations. Having a positive net result at the end of the year may not be sufficient for the shareholder if such positive net income is below what the shareholders would earn if they would have invested in another business with approximately the same risk. Accordingly, looking from the shareholder / investor perspective, additional analysis is required than simple profitability ratios.

EVA measures the change in shareholders' wealth. The equity invested should earn at least same as other equities with similar risks earn. If it is positive, it means the Company did well and exceeded shareholders' expectations. If it is negative, there is no real profit, despite positive net income for the year or accumulated profits. If it is zero, this means sufficient achievement is reached, i.e. earned as much as other securities with similar risk.[67]

Another performance measurement tool introduced by Stewart related to EVA is Market Value Added (MVA). It is simply defined as *"market value of company less invested capital ".* It is also defined as "*market value of equity plus market value of debt*" by various authors. This is actually what remains after all securities are sold and all debt is paid. For the investor, MVA gives valuable information regarding a company's performance.[68]

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[66] About EVA, www.sternstewart.com
[67] Makelainen, p.6-8
[68] JH de Wet and JH Hall, The Relationship between EVA, MVA and Leverage, Meditari Accountancy Research, Vol.12, no.1, 2004, p.41

In 1999, having combined EVA and ABC, Roztocki and Needy proposed another system, noting that it will help managers to understand the value of capital invested into the business. Under this system, it is required that EVA is computed based on the figures derived using ABC as costing system. In this way, it is considered that economic value computed for each product, department or company will give a better and correct view. Accordingly, managers will able to decide based on long-term values, instead of concentrating on short-term results. However, they also add that it is not the proposed system which will reengineer the business processes used by the company, but management itself having correct information on hand. So the proposed system will provide to the managers necessary information by allocating the costs to products based on activities consumed expenses and then computing economic value of each to the company.[69]

2.3.4.3 Balanced Scorecard

As the name is self explanatory, data generated within management accounting system is for management to give correct decisions for company operations. Hence success of the company depends on the success of the management. Therefore, performance measurement not only at the corporate level but also at the management / personnel level is very important from the shareholder point of view. Modern management accounting literature also included certain new methodologies regarding performance measurement, one of which is Balanced Scorecard.

Shortcomings of performance measurement systems were also discussed by accounting authors for a long time. 1980s measurement systems used by many firms have been criticized and in reaction in 1990s many firms started to reengineer their system. Balanced Scorecard (BSC) was first introduced by Robert Kaplan and David Norton in 1992 in Harvard Business Review into the accounting literature. However, there was long study behind it which was started in 1990. The story behind BSC was explained in preface of their book by Kaplan and Norton as summarized below.[70]

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[69] Narcyz Roztocki and Kim LaScola Needy, Integrating Activity Based Costing and Economic Value Added in Manufacturing, Engineering Management Journal, 1999, p.7
[70] Robert S. Kaplan, David P. Norton, Translating Strategy into Action: The Balanced Scorecard, Harvard Business School Press, 1996, preface

Nolan Norton Institute sponsored a study called "measuring performance in the organization of the future" covering representatives from a dozen companies. Participants thought that financial performance measures are not sufficient and therefore new measurement bases need to be defined. David Norton was the CEO of the Nolan Norton Institute and worked together with Robert Kaplan as an academic consultant. They started by examining case studies of innovative performance measurement systems. They have discussed corporate scorecard, shareholder value, productivity and quality measurements, new compensation plans. However, group discussions focused on scorecard concept which was then named as "balanced scorecard". They have implemented BSC on pilot companies, and based on those experiences they have identified barriers and opportunities of BSC.

First publication summarizing the results of the study was "The Balanced Scorecard – Measures That Drive Performance" in Harvard Business Review, January-February 1992. After that they have consulted in implementation of BSC in many other companies. Within those implementations one important thing that was identified was the importance of linkage between company's strategy and measures in BSC. This concept was discussed in their second publication "Putting the Balanced Scorecard into to Work" in Harvard Business Review, September-October 1993. By mid-1993, Norton as a CEO of Renaissance Solutions Inc., continued consulting in the implementation of BSC. Within those studies they mainly worked on translating and implementing strategy and gained experience on the strategic linkages of the scorecard. Experiences showed that CEOs use BSC not only to communicate company's strategy to employees but also to manage it. BCS was used for individual and team goal setting, compensation, resource allocation, budgeting and planning, strategic feedback and learning. Kaplan and Norton summarized those experiences in their third article in Harvard Business Review, January-February 1996, "Using the Balanced Scorecard as a Strategic Management System".

Technology incorporates into human life more and more everyday, not only in business but also in personal life. Enterprise Resource Planning (ERP) applications, like Sap, Baan, etc., are being applied by number of incorporations. Management would like to reach any data required immediately from the company's software system. Therefore, affect of ERP applications within management accounting and performance measurement is discussed. It is a common idea that there should be a link between BSC and the ERP system being used to increase the efficiency. Advocating the integration of BSC and ERP systems, Edwards highlighted the key success of implementation of management accounting system as follows:[71]

"The key to successful implementation of any major management information system is the automation of the methodology through an enterprise-deployable application."

Management of the company needs to link certain analytical applications within the enterprise system. Through ERP applications, users will be able to reach necessary databases required for detail analysis. In order to have a successful BSC application, users should be able to easily prepare their scorecard and modify when necessary within the system being used by the company. Users should easily access the relevant information necessary for reviewing and providing assessment. Finally, it should be user friendly so that it is widely used. All those criteria can be met with an effective ERP system linked to BSC system.[72]

2.3.4.4 Strategy Maps

Kaplan and Norton who have developed Balance Scorecard in 1992, extended their work and introduced "strategy maps" in their book "The Strategy Focused Organization" in 2001. In fact strategy map helps to control whether balanced scorecard is linked to the organization's strategy.

In 2003, Kaplan noted in an interview that executives asked them to prepare some strategy map templates and they were working on templates for different strategies.[73] In 2004, they have published "Strategy Maps – Converting Intangible Assets to Tangible Outcomes".

Following definition of strategy maps clearly defines its role in an organization:[74]

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[71] James B. Edwards, ERP, Balanced Scorecard and IT: How Do They Fit Together?, The Journal of Corporate Accounting and Finance, V.12, No.5 July/August 2001, p.11
[72] Edwards, 5-9
[73] Andre A de Waal, The Future of Balanced Scorecard: An Interview with Robert Kaplan, Measuring Business Excellence, V.7, No:1, 2003, p.30-35
[74] Strategy maps – Strategic Communication, www.valuebasedmanagement.net

"A strategy map is a diagram that describes how an organization creates value by connecting strategic objectives in explicit cause-and-effect relationship with each other in the four balanced scorecard objectives, financial, customer, process, learning and growth."

2.3.4.5 Beyond Budgeting

During late 1990s, many professionals began complaining about budgets. Some of them were complaining about its time consuming preparation process, some were complaining that it may cause "window dressing" or people may loose certain opportunities being focused on budgets only. "Beyond budgeting" concept was introduced at that time. Those who were complaining budgets and trying to find alternative methods established the "Beyond Budgeting Roundtable" (BBRT) in 1998. They worked to find an alternative to traditional budgets.

Main criticism on traditional budgeting process was summarized by BBRT as follows:[75]

Budgets

1. are time consuming and expensive
2. provide poor value to users
3. fail to focus on shareholder value
4. are too rigid and prevent pat response
5. protect rather than reduce costs
6. discourage product and strategy innovation
7. focus on sales rather than customer satisfaction
8. divorced from strategy
9. reinforce a dependency culture
10. lead to unethical behavior

After certain researches and studies, they have defined general conditions for use of beyond budgeting. In fact it does not mean that the company will not have any

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[75] About Beyond Budgeting, www.bbrt.org

targets but, it requires a more flexible environment. One of the executives of a company who applied beyond budgeting defined it as[76]

"Beyond budgeting means getting rid of the fixed annual performance contact"

In fact, there are still certain numerical targets but not fixed for one year period, and prepared in previous year. Instead they use rolling budgets, which are continuously updated with respect to market conditions. Furthermore, performance is not compared with fixed pre-determined targets but with what should have been done. Therefore, gaps are analyzed, either positive or negative, and strategies to reach targets are revised immediately.

For a flexible environment required for beyond budgeting following conditions should be met:[77]

1. Management system is decentralized. Managers are allowed to manage their units with their rules.

2. Managers are responsible for short-term and long-term loans and they are free to decide themselves for their policies to reach company goals.

3. There are no pre-determined fixed targets. There is a dynamic environment and performance is compared not with fixed targeted numbers but with what could have been done.

4. The aim is not to reach targeted sales volume but to reach customer satisfaction. So managers can act according to changes in the market and work as customer-focused.

5. Since each unit is managed separately with unit managers, they are also free to decide whether they will use services of support departments and how much they are going to use.

[76] Juergen H. Daum, Rainer Gunz, Jean-Daniel Luthi and Steve Morlidge, Beyond Budgeting – breaking free from the annual fixed budget: a discussion between experts from Borealis, Nestlé, Unilever and SAP, Measuring Business Excellence, volume 9, no:1, 2005, p.65
[77] André A. de Waal, Insights from Practice – Is Your Organization ready for Beyond Budgeting?, Measuring Business Excellence, volume 9, no:2, 2005, p.56-57

6. While each unit is managed by its managers, senior managers act as mentors and coordinate the relationship between units.

Within the beyond budgeting system, in order to design an adaptive management process following should have been done:[78]

1. Managers are involved in target setting process and targets are continuously updated based on the market conditions and competitors' position.

2. There is no one time strategy setting process at the beginning of the year. It is continuous process throughout the year based on the signals from bottom to up.

3. Instead of fixed one year budgets, managers prepare quarterly rolling budgets.

4. Resources are allocated to those units according to their needs. Best investment plan gets the most resources.

5. They do not prepare performance reports with too many details. Information is condensed and easy to access.

6. Rewards are determined based on the performance of the unit and the whole organization relatively.

Looking into practice, there are well known big companies applying beyond budgeting in their organizations like, Borealis, Nestlé, Unilever and SAP. Nestlé, for example, named their budgeting system as "dynamic forecasting" and they think that they became more flexible in managing the performance of their company. Borealis, on the other hand, separated budgeting process into four tools, rolling financial forecasting, the balanced scorecard, rolling investment management and benchmarking. They believe that this system allowed them to become more flexible and reduce the gaming with financial numbers.[79]

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[78] Waal, p.57-58
[79] Daum, Gunz, Luthi and Morlidge, p.65

2.4 Management Accounting – Turkish Experience

Based on the researches, many documents have been found regarding government accounting in Turkish history. As first Turkish alphabet is coming from Göktürkler, the first records found are also from Göktürkler. Certain records have been found from A.C. 732, giving the details of on hand assets like silver, gold, horses, tents, etc. Kutadgu Bilig and Divanü Lugat-it Türk are other documents giving details from Karahanlılar.[80] Development in Turkish accounting system is related with the cultural and social changes. It was affected by Arab and Persians first. After Tanzimat, certain accounting books have been translated to Greek and Armenian and published. During the second half of 19th century certain accounting books in Turkish have also been published.[81]

From the regulations perspective, trade law (kanunname-i ticaret) enacted in 1850 was considered as the first regulation in accounting. Such law was prepared as a translation from French laws. After the Turkish Republic is established, trade law enacted in 1926 was based on German law. Effect of Germany on accounting continued until 1960s. Furthermore, accounting system of certain state enterprises were established with German accounting professors which increased the effect of Germans. After 1960, together with the increasing economic relationship, effects of USA are observed.[82]

Although there are certain books and articles in accounting literature explaining the history of accounting in Turkey, there are not many discussions over the development of management accounting practices in Turkish business life. Having limited guidance from the literature, it is preferred to have interviews with certain practitioners and academicians who have significant experience in accounting. Furthermore, the author, although limited compared to others interviewed, prepared certain extracts from her experience as an auditor for a period of 14 years.[*]

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[80] Oktay Güvemli, Türk Devletleri Muhasebe Tarihi – Osmanlı İmparatorluğu'na Kadar, Avcıol Basım yayın, 1995, p.13-14
[81] Güvemli, p.15-16

[82] Fahir Bilginoğlu, Muhasebe Organizasyonu, İ.Ü. İşletme Fakültesi, Muhasebe Enstitüsü Yayın No:54, İstanbul 1988, p.15-16
[*] The extracts derived from the author's own experience will not include any company names, identification of sub industry segments and monetary units in order to keep confidentiality.

Developments in accounting practices are very much related with the economic developments in a country. Therefore, history of management accounting needs to be discussed with the developments in Turkish economy.

After the establishment of Turkish Republic, government was the only investor in many sectors as private sector did not have enough capital to invest. Accordingly, going back to first couple of decades after establishment of the republic, state enterprises were the major corporations. Sümerbank, as the biggest one, is always discussed for its initial cost accounting practices.

Sümerbank was established in 1933. Accounting system is designed under the guidance of a German accounting professor. Cost components and cost centers were identified and allocation tables have been prepared. Chart of accounts prepared for Sümerbank was also used by other state enterprises in following years. At the beginning standard costing was used, but then due to the difficulties experienced at the end of each period, replaced with actual costing.[83]

Industrialization has started between 1940 and 1950 in Turkey. However, in 1956 the picture in front of the tax offices was that people with typewriters on orange chests were preparing tax declarations based on the amount the tax payer would like to pay. Accordingly, it was difficult to talk about proper accounting system for financial reporting or management purposes in those years, except for certain state enterprises like Sümerbank.[84]

Unfortunately, cost and management accounting systems developed in Sümerbank was not spread over the private enterprises. Only certain state enterprises used this system. Furthermore, management accounting requires continuous improvement in order to fulfill the requirements of changing business environment. However, state enterprises like Sümerbank could not adopt themselves to changes.

In 1960s and 1970s with the five year development plans introduced, more future focused intentions were observed. It was between 1961 and 1965 that United Nations started a project to help the improvement of “organization and management” in

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[83] Ahmet Tokaç, Finansal Muhasebe Uygulamaları, Tunca Kitabevi, İstanbul, 2006
[84] Mehmet Şuhubi, personal interview, May 2006

Turkey. The project also covered management accounting while discussing the organization and management structure of a company. A professor from United States of America was assigned to the project and Neyir Triko was selected as pilot company. They planned to make the initial workshop at Neyir Triko, reorganize the organization and management in this company and through various seminars based on this case, extend the application to other Turkish companies as well. The project took approximately 6 months. The work performed in Neyir Triko was completed in a very smooth way. The accounting manager of Neyir Triko was a well educated and enthusiastic professional. He already applied certain organization and management techniques he learned at the university or through the recent management books he read. The seminars also were very successful. Many executives participated from different Turkish corporations who would like to implement similar organization and management techniques in their corporations as well. However, there was one handicap of the project. After this 6 months work, participants were expected to apply what they have observed and learned in this seminar to their companies, but, there was no follow up stage of the project. Accordingly, there is no indication whether this workshop helped participants to improve their management skills and whether helped Turkish companies to improve their organization structure and management system including management accounting.[85]

Although uniform chart of accounts for state enterprises were introduced between1964-1968[86], it became mandatory for all enterprises other than financial institutions in Turkey in 1994.

In 1970s certain private entrepreneurs were observed with significant investments. Executive of a well-known Turkish corporation noted that they did not have any cost accounting at the beginning of 1970s. There were no cost accounts introduced to the accounting system. They used to prepare a spreadsheet where cost items listed per cost centers. Numbers computed based on certain manual computations with the data provided through prepared spreadsheet were accounted for

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[85] Vitali Saporta, personal interview, May 2006

[86] Hüseyin Perviz Pur, Çağlar Boyunca Muhasebe Mesleğinde Statü ve İşlev Değişimleri, Muhasebenin Tarihsel ve Çağdaş Konumlarından Geleceğine Bakış, TÜRMOB Yayınları No:23, Ankara 1995, p.107

as “cost”. In 1973 with coordination of information technology (IT) department of Boğaziçi University, they transferred the cost spreadsheets to Cobal, which was considered as an incredible improvement in accounting. In 1973, cost accounts were added to the accounting plan. After 1980, chart of accounts was revised to serve management reporting as well.[87]

With significant changes in regulations between 1982 and 1985, relevance of management accounting is significantly increased. Before that period, it was not important for companies to report and analyze foreign currency position of the company as it was not allowed to keep foreign currency. Exchange rates were not determined on free market conditions, but on government directives. Companies were not allowed to import any material from abroad if the item was not listed in the import list by government. Therefore, companies were not in a position to compete with their worldwide competitors but only with local market players. That was one of the reasons for purchasing lower quality products with relatively higher prices in that period in Turkey compared to other countries.

Change in regulations also caused significant changes in the economy. Despite the negative effect of inflation, volume of transactions increased, new factories were established by national entrepreneurs, foreign capital flew into the country and was invested in business. Competitive environment not only increased the quality of products and services for customers, but also increased management reporting requirements for companies.

During that period, many new factories were established, existing ones enlarged; i.e. both number and volume of investments were increased. Looking into details, it was noted that there were many foreign investors either purchasing shares of existing incorporations or establishing new corporations. There were also local entrepreneurs making huge investments. Some of those Turkish investors were real entrepreneurs who started from small farms and became largest in the country, or started with small family owned trading companies and became largest and leading company in its sector. They sold certain shares to the public and/or to foreign well known investors; some continued with bank loans to finance new investments.

[87] Orhan Ercek, personal interview, May 2006

Especially those companies that had rapid growth period had difficulty in converting their business from a family owned company to a professional organization. Hence management accounting to support the management team was not established properly. Actually the concept of "management accounting" was misunderstood. It was considered that "accounting is accounting" and it is done because it was compulsory to provide government authorities certain financial information and tax declaration. If it was asked for a separate set of financial statements for management purposes, it was associated with the unrecorded transactions.

Accordingly, management of the company also used the same financial data which was used for external financial reporting. There could have been certain additional information but not in the sense of today's understanding of management accounting. Following is an example of how lack of management accounting resulted in wrong decisions taken.

Following example from 1990s illustrates importance of management accounting for decision making. The company was operating in food and beverage sector. It was a well known Turkish corporation producing and selling consumer products. Financial statements prepared in accordance with Turkish Accounting Practice (in accordance with uniform chart of accounts and tax regulations) reflected a positive net result for the years in late 1990s. At that time, although Turkish economy was considered to be a hyper-inflationary economy in accordance with International Financial Reporting Standards and Generally Accepted Accounting Principles in USA, local regulations did not require application of inflation accounting in local books. There were, however, certain foreign investment companies who either applied inflation accounting or foreign currency reporting in order to reflect the effect of inflation on company's operations. This company being a family owned Turkish incorporation did not find necessary to make such analyses, until the date they decided to have a foreign partner and started for detailed special analyses.

For the purposes of the special project, detailed analyses were performed for each product by an independent public accountant. Financial statements were re-measured in terms of US dollars. Furthermore, individual product costs and selling prices were also translated into US dollars with relevant translation techniques. Company's operations reflected a seasonal trend. Therefore, there was a material time gap between the raw materials purchased and finished goods sold. When inflation accounting was performed, restatement effect on cost of goods sold was much higher than the restatement effect on sales. For couple of products inflation accounting resulted in negative gross margin. In other words, sales price did not even cover the cost of the product without taking into consideration selling and marketing expenses or general and administrative expenses. The more interesting point was that company management was not aware of that fact. They thought those were profitable products and discussing how to increase sales volume. In fact, they were trying to plan how to increase loss on sale, without being aware. Upon presentation of the sales-cost analyses on product bases by the independent public accountant, sales department and production department started to blame each other. Production department told that sales prices were low and since they only considered the number of units sold, lower prices were quoted in order to increase number of units sold. Sales department, on the other hand, noted that sales prices were determined based on market realities and they set highest prices they could. They also noted that if competitors could produce and sell at lower prices and make money, they should do as well. Hence production department should concentrate on lowering the cost of production. This discussion continued until the president stopped and asked for further analyses before giving a final decision.

If management knew the actual cost of products, they would

- Investigate for lowering costs
- Investigate for differentiating the product with little additional costs and asking for higher prices
- Decide not to produce those products making loss, but investing their capital in other products with higher profit margins

The analyses made were not for management reporting purposes actually. It was the intermediary phase of a valuation project. Accordingly, the result noted above, having couple of products with negative gross margins, was noted upon inflation accounting. The result would be totally different for other products as well, if activity based costing was applied to see the cost of each product.

The company was one of the leading brands in its sector. Although it was a family owned company, it had well educated and experienced executives in each department. The only missing thing was a well established management reporting system, which caused the management to take wrong decisions, or not taking correct decisions on time. It is just an example from late 1990s. However, it is not unique. Many other examples can be given where managements were actually not aware of realities of their companies which they were supposed to manage.

Entrepreneurs of 1970s and 1980s in Turkey were mainly coming from the manufacturing side. They or their fathers started the business with small workshops and having succeeded they have enlarged their businesses and became one of the largest companies in their sector, if not the leader of the sector. Since they were manufacturing-oriented people, they have measured success in terms of production volume, modernization and capacity of their production process, etc. Accordingly they invested in machinery and equipment, factory building and other manufacturing facilities. They tried to be the biggest manufacturer in Turkey, in Balkans, in Middle East or even in Europe. Many of them did actually. There are two more examples, which can be discussed in detail to see the affect of mismanagement resulting from lack of proper management accounting system.

A company engaged in production of certain consumer products in electronics sector was one of them. In 1990s it had high volume of sales in Turkey and it had significant amount of exports as well. Sales volume was increasing every year and the management of the company wanted to increase their capacity and meanwhile modernize their production process. At the end of the investment period they had an integrated production process unique in Turkey. Its quality was well enough to compete with Japanese products and they had no problem in sales. However, following years financial statements did not result with a positive net income although sales volume was in an increasing trend. Furthermore, they were not working at full capacity. They even faced certain problems in generating positive cash flows from operations. Working capital need was financed through short term bank loans. The worst think was that even the investment was financed by short-term bank loans. Within a short period of time the Company was in a real financial difficulty, loans doubled, risk increased and as a result interest rates charged by creditors increased as well. In practice, the company started to work for banks. Any profit gained was offset by interest expense incurred over bank loans. Company's sophisticated and high capacity facilities did not contribute to its shareholders. On the other hand, shareholders had to inject additional capital to keep the company as a going concern. Furthermore, since the technology is changing very rapidly in electronics sector, they never reached a position to use their capacity, since new products and techniques were introduced in 5 years time.

If the company management, had been using a well established management accounting system, for example EVA in their performance reporting system and in decision making regarding new investments, the management would have been aware of economic value to be gained through new investments planned and might decide accordingly. Furthermore, well prepared cash flow budgets would have helped management to manage its cash needs more properly.

Similar experience was observed in food and beverage sector in late 1990 - early 2000s. Again a production oriented entrepreneur decided to modernize its production process and increase its capacity at the same time. Within a short period of time, they had an excellent production process. They were in such a sector that entrance and exit to the business was very easy. When there was a demand, many small companies jumped into the system increasing the supply and decreasing the demand. This was the case when the high capacity modern factory was completed. Therefore they could not reach the optimum capacity and furthermore products were sold at lower prices than expected. Accordingly, expected cash did not flow into the business and they obtained new short term bank loans to pay back the matured ones. Result was almost the same as previous example and the company went to bankrupt with high quality assets on hand.

Looking into statutory financial statements prepared for tax purposes only and based on those results considering that higher sales volume will generate higher profits did not help the company management taking correct decisions for further investments. They should prepare detail analysis before starting the investment project. EVA computations and cash flow budgets taking into account planned investments would have helped the company management in their decisions. Furthermore, market conditions should have been considered in such a volatile market and different scenarios should have been prepared for budgets and EVA computations, so that management would have seen the worst situation as well as the optimum position.

Performance reporting is also an important aspect of management accounting. Well established performance management systems can contribute much to the company to reach its objectives. However, if it is not designed and managed well, it can have negative affects.

Another example from pharmaceutical sector in 1990s can be given for a performance measurement system which resulted in management fraud. The company was required to report to headquarters monthly, based on company's worldwide used reporting package which was reviewed by external auditors at the end of each year. Headquarters' objectives were communicated to local management through budgets. In fact, reporting package also included budget versus actual comparison of income statement. Performance measurement of sales department was totally based on achievement of targeted sales at year end. During the audit work, the auditors noted that in November and especially in December there was a high increase in sales compared to previous months. It was not due to seasonality as similar increase was not observed in previous year. No meaningful explanation could be obtained from sales department; as there was no new product launched, no epidemic invasion or a sales campaign. Auditors continued to investigate and during subsequent review they noted that there were considerable amount of returns from customers in January. Furthermore, there was a decrease in sales in January and February compared to previous year. Having further discussions with individuals from sales and accounting department it was noted that in order to achieve the budgeted sales volume of the current year, sales personnel agreed with some of their customers to invoice more than what they actually need in December and accept any return in January if they could not sell or extend the payment terms as if they were sold in January and February. Additional discounts were also given to increase sales. Some of the goods were not even shipped as of December 31.

Having achievement of budgeted sales volume as the most critical performance measurement criteria caused fraudulent financial reporting at the end. If in this case, beside the sales volume, percentage of returns, net contribution of sales, collection periods, etc. have been considered as additional financial parameters to measure the performance, probably it would have been more difficult to organize such a fraud.

After the positive flow of economic growth, two crises experienced also affected business life in Turkey significantly. After the regulation changes it did not take long for companies to learn how to play with foreign currency. Within that period, they realized how to benefit from opportunities. Turkish economy gained new entrepreneurs looking after different opportunities and trying to convert those opportunities into gain. Economic crises experienced in 1994 and 2001, on the other hand, introduced “risk management” concept to the business world in Turkey. Companies noticed that they are not in a position to manage the production and sales only, but also they should manage risks associated with the business.

They need to plan their operations to manage:

- Foreign exchange risk
- Interest rate risk
- Price risk
- Liquidity risk
- Credit risk

Management, of course, will need certain data to manage those risks. Accordingly importance of management accounting and management accountants increased upon recognition of risk management in Turkey. Especially after 2001, it is observed that companies started certain reorganization projects to establish the management accounting process including, of course, performance measurement. Strategic management accounting tools like Activity Based Management, Economic Value Added and Balanced Scorecard are considered and applied to the extend that they will contribute to the company.

It is interesting to note that a company of a well known group in Turkey who did not have any cost accounting system in early 1970s, established a management accounting system in late 1990s and early 2000s which can be taught as “best practice of management accounting” in universities today.

They established such a system that management at any level, within the given access limits, can reach any information from the system without waiting for the monthly, book vise management reports. They started the project in 1997 and it took almost 3 years to complete the project. Chief Financial Officer (CFO) of the company worked together with 10 people from accounting and IT for the project. With their project they won award within the group they belong to. [88]

They have established an integrated system, composed of different sub-modules for management accounting. Those are:

- Sales management
- Raw material management
- Accounting
- Human resources
- Cost management
- Cash management
- Operations management
- Budgeting
- Import management
- Fixed assets management
- Repair and maintenance
- Qualified service applications

Users can reach to the system from network within the company premises, or through internet or intranet from other places. Access codes are determined for each user according to their responsibilities.

In order to give an idea regarding the management accounting system used, it is worth briefly to explain the sales module. When any sales order is entered to the system by sales person, s/he can immediately see the net profit margin of this sale given discounts and collection terms at standard costs. They can follow profitability of sales per order, per product, per region, per customer groups or even per customer. They can also follow performance of each sales person from sales management module. At the beginning of the period certain budgeted targets are agreed and introduced to the personnel. However, salesmen are not only assessed based on sales volume, but also for profitability and length of collection period. While a sales person accepts and enters the sales order into the system, he is provided with all necessary current information regarding the customer/distributor. He can follow his credibility limit,

[88] Orhan Ercek, personal interview, May 2006

length of collection and amount of outstanding balances on the day of the transaction. All information regarding distributors is entered to the system starting from the application phase. When there is an application to be become a distributor of the company, required information obtained by the salesmen is introduced to the system, with his/her comments and is sent to the sales manager automatically. After sales manager reviews and accepts, it is automatically submitted to the CFO. Upon CFO's approval general manager needs to approve. Finally if general manager approves, such candidate is automatically defined as a distributor in the system waiting for clerical work to be completed to be activated.

Other sub-modules work with similar logic. The basic idea is that every individual within the company can access the required data, limited to his/her responsibilities, from the system without asking someone else. Accordingly, cost of report preparation is decreased significantly and since the data is available on time, it is more relevant for the users. They have different locations far from each other, but through intranet they can access the information wherever they are. Although those sub-modules are connected to each other, any break in one of them does not affect the other ones, only data is not updated during the break-out period.

Required data for performance measurement of departments and /or individuals can also be obtained from the system. They try to assess the economic value added by each function/department and accordingly build financial parameters for performance measurement. They have announced their 5 year plan to the personnel from top to down. In order the company to reach objectives defined in 5 year plan, departments and individuals working in those departments are asked to prepare their plans. Assessment is based on those pre-determined plans with managers/employees.

For risk management purposes also, the management accounting system gives necessary data to management. For example, they can follow daily foreign currency position to manage foreign currency risk; or they can follow cash flows from the system with forecasted collections and payments to manage liquidity risk.

It is really one of the best practices; however, it does not represent the management accounting practice in Turkey. Considering that even the holding company introduced some of the concepts covered within this management accounting system to other companies in the group in 2005, after 5 years of implementation in this company, it is obvious that Turkish companies have a long way to improve their management accounting system.

However, it should also be acknowledged that, in 1960s there was even no cost accounting, except for certain state enterprises. It was in 1970s that only large companies started to set up a cost accounting system. After 1980s, increasing competition required companies to focus on their cost system and standard chart of accounts and cost modules were introduced at least in large companies. During 1990s, management learned “risk management” concept and tried to make longer term plans, defined mission and vision statements of their organizations. And after 2000, new management accounting techniques are introduced to large companies and middle size companies as well. Therefore, progress observed within a half century is not negligible and development trend after 2001 seems to be continuing.

3. LITERATURE SURVEY

There are many articles written and surveys made on management accounting. Some investigated the adoption rates of new management accounting techniques compared to traditional methods; some investigated cultural differences and while some focused on certain management accounting tools like budgeting, Activity Based Costing (ABC), Balanced Scorecard (BSC), etc. Within this chapter a brief summary will be given regarding the surveys made on management accounting within Turkey and all over the world.

After development of new techniques and introduction of strategic management accounting tools, classification of cost methods are also changed. Following examples from Turkish accounting literature may illustrate the change in cost and management accounting:

Alparslan Peker analyzed the costs and cost systems in 1974 as follows:[89]

Costs

1. based on volume
    a. variable costs
    b. semi-variable costs
    c. fixed costs
2. based on cost functions
    a. preparation costs
    b. production costs
    c. general and administrative expenses
    d. sales and marketing expenses
3. based on occurrence
    a. past costs
    b. future costs
        1. expected costs
        2. standard costs

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[89] Alparslan Peker, Yönetim Muhasebesi, İ.Ü. İşletme Fakültesi Muhasebe Enstitüsü Yayın No:3, 1974, p.1115-139

Costing Systems

1. based on coverage
    a. full costing
    b. normal full costing
    c. direct costing
    d. marginal costing
    e. opportunity costing

In 1988 Peker revised and extended his classification as follows:[90]

Costs

1. based on volume
    a. variable costs
    b. semi-variable costs
    c. fixed costs
2. based on coverage
    a. total cost
    b. unit cost
    c. average cost
    d. marginal cost
3. based on relation with production
    a. direct costs
    b. indirect costs
4. based on cost functions
    a. preparation costs
    b. production costs
    c. general and administrative expenses
    d. sales and marketing expenses
5. based on management preferences
    a. avoidable costs
    b. unavoidable costs

[90] Alparslan Peker, Modern Yönetim Muhasebesi, İ.Ü. İşletme Fakültesi Muhasebe Enstitüsü Yayın No:53, 1988, p.142-238

6. based on occurrence
    a. past costs
    b. future costs

Costing Systems

1. based on occurrence
    a. actual costing
    b. future based costing
        i. estimated costing
        ii. standard costing
2. based on coverage
    a. full costing
    b. variable costing
    c. direct costing
    d. auditable costing
    e. opportunity costing
    f. incremental costing
    g. sunk costing
3. based on production process
    a. job order costing
    b. process costing

Classification of Zeyyat Hatiboğlu and Cudi Tuncer Gürsoy in 1979 was as follows:[91]

Costs

1. fixed costs / variable costs
2. actual cost / variable cost
3. total cost / unit cost
4. historical cost / future cost
5. original cost / renewing cost
6. cash costs / non-cash costs

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[91] Zeyyat Hatiboğlu and Cudi Tuncer Gürsoy, Maliyet ve Yönetim Muhasebesi, İşletme İktisadı ve Yönetimi No:7, 1979, p.19-13; 71; 205

7. marginal costs / incremental costs
8. valid costs / sunk costs
9. postponable costs / urgent costs
10. avoidable costs / unavoidable costs
11. direct costs / indirect costs
12. controllable costs / uncontrollable costs

Costing Methods – computation of product costs

1. process costing
2. job order costing

Costing Methods – identification of cost components

1. full costing
2. direct costing

Costs and costing methods were classified by Rüstem Hacırüstemoğlu in 2000 as follows:[92]

Costs

1. based on functions
   a. acquisition costs
      i. preparation costs
      ii. investment costs
      iii. operational costs
   b. production costs
   c. research and development costs
   d. management costs
   e. financial costs
2. based on effect on production
   a. production costs
      i. direct costs
      ii. indirect costs

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[92] Rüstem Hacırüstemoğlu, Maliyet Muhasebesi, Türkmen Kitabevi, İstanbul 2000, p.18-25; p.242-245

    b. non-production costs

3. based on timing
    a. period costs
    b. beyond period costs
4. based on accounting
    a. actual costs
    b. expected costs
    c. standard costs
5. based on coverage
    a. total costs
    b. unit costs
6. from decision making perspective
    a. valid costs
    b. additional costs
    c. marginal costs
    d. non-cash costs
    e. sunk costs
    f. opportunity costs
    g. avoidable costs
    h. original costs
7. based on effectiveness
    a. controllable costs
    b. non-controllable costs

Costing Methods

1. based on purpose
    a. actual costing
    b. standard costing
2. based on production process
    a. job order costing
    b. process costing
3. based on allocation of costs
    a. full costing
    b. direct costing

In 2003, Kamil Büyükmirza preferred following classification:[93]

Costs

1. based on decision making perspective
    a. valid costs
        i. marginal costs
        ii. opportunity costs
    b. invalid costs

Costing Methods

1. based on range
    a. full costing
    b. normal costing
    c. variable costing
2. based on timing
    a. actual costing
    b. expected costing
    c. standard costing
3. based on production process
    a. job order costing
    b. process costing

[93] Kamil Büyükmirza, Maliyet ve Yönetim Muhasebesi, Gazi Kitabevi, Ankara 2003, p.

However, it is preferred to summarize the surveys in the literature under following headings which will be more useful to summarize the current survey results made in Turkey:

i. Costing methods
    a. Cost methods related to types of the business
    b. Cost methods related to controlling purpose
ii. Analysis of Cost Components
    a. Cost structure
    b. Allocation of overhead costs
iii. Management control and performance measurement
    a. Budgets
    b. Performance measurement of investments
iv. Strategic management accounting practices
    a. Just-in-Time Management
    b. Quality Costs
    c. Target Costing
    d. Kaizen Costing
    e. Activity Based Costing
    f. Value Based Management & EVA
    g. Balanced Scorecard

3.1 Costing Methods

Cost of a product or service is affected by the method used to determine the cost. There are various different methods used depending on the type of business, related with the control purpose and also there are different ways of classifying costs incurred.

Whichever method is used, the aim is to allocate costs to related product and services and accordingly, starting point is to categorize costs and map them to service departments, production centers and/or activities. Then costs are attached to cost objects. The way such allocation is made actually determines the cost accounting system used.[94]

3.1.1 Cost Methods Related to the Types of the Business

Traditionally, there are 2 main cost accounting systems defined in the literature, namely:

i. Job order costing

ii. Process costing

Third category may be Hybrid system which is actually a combination of both job-order and process costing.

Although certain new tools have been introduced since 1980, many companies still use such traditional techniques, may be with certain modifications.

3.1.1.1 Job Order Costing

Job order costing is frequently used by companies that produce unique products based on the specifications agreed with the customers. Therefore, cost of each service or product may be significantly different than the others, in which case

[94] Robert Kaplan and Anthony Atkinson, Management Accounting, Prentice Hall, New Jersey, p.114

more detailed cost information is required in order to provide valuable information to decision makers (e.g. those who will set the selling price).

Construction companies, companies providing accounting, legal advice or audit services use job order costing. A construction company may have different projects ongoing at the same time:

- Construction of a bridge
- Construction of housing units
- Construction of metro

In this case, the company needs to follow expenditures made on project bases. It is obvious that percentage of cost components of each project will be significantly different than the other.

The case is almost same for an audit firm. Consider an audit firm providing audit services to:

- A holding company (consolidation of 25 companies)
- A bank whose shares are publicly traded
- A medium size private company

Although the audit services given to such clients will all be under International Standards on Auditing and at the end one page audit report (to simplify the example) will be submitted, time spent for each client will be different. More important is that level of expert involvement will be different. Since public companies and financial institutions are more risky, more experienced people will be assigned to those jobs, level of quality control procedures will be much more extensive for public companies and financial institutions. Accordingly, the audit firm will prefer to follow cost of each job separately.

However, although the company will try to follow expenditures related to different jobs separately, there will be certain general expenditures made by back office (purchasing, accounting, selling and marketing) which still requires certain methodology to allocate to projects, so that net result of each project can be measured reliably.

In job order costing, only one work in process (WIP) account is kept and costs incurred during the production process are accumulated in this WIP account. At the end of the period those costs are allocated to finished goods with pre-determined overhead allocation rates. However, although there is only one WIP account, either through cost cards or through sub WIP accounts, costs related to specific products are also followed.

3.1.1.2 Process Costing

Process costing system is more relevant to companies producing huge amount of similar items. It is not possible to identify the production costs for each single item, as many are produced with similar specifications.

For example, a biscuit company may have various products; salty sticks, cacao biscuits, wafers, crème sandwich biscuits, etc. However, it is difficult to identify within the day where actually the cost of personnel worked on production of salty sticks start and ends, and where cacao biscuits start. Therefore, they prefer to use process costing and prepare separate WIP accounts at different stages. Under process costing, the cost of direct material, direct labor and manufacturing overhead costs are first traced to processes, and then assigned to the products manufactured by those. Output of one stage becomes the input of the next. Accordingly, First in First Out (FIFO) method is used while costs are assigned to products at each stage.

As explained above, cost accounting system selected for the company should be in line with the work process of the company so that necessary information can be gathered from the accounting system for the company management in decision making. However, more important aspect of selecting the relevant cost accounting system would be to have accurate and relevant data; otherwise wrong data will lead management to take wrong decisions.

Different surveys made in different countries simply indicate that job-order costing and process costing are the 2 main costing methods still used by most of the companies. However, there is also a significant portion that uses a combination of process costing and job-order costing.

Research made in Japan in 1984 (Tanaka and Inoue) reflected that 23% of the firms use job-order costing while 55% reported that they use process costing.

Almost 14% stated that they use multiple systems. In 1989 Yochikawa made another survey without giving an option of multiple systems, and results changed as 33% job-order and 62% process costing.[95]

Survey performed by Schwarzbach in 1985 in USA, showed that 28% of the companies use job-order costing and 36 % use process costing. 17% noted that they use multiple systems. In 1987, however, the ratios changed as 35% for job-order and 24% for process costing while there was no option to answer as multiple system (Howell, Brown, Soucy and Seed).[96]

In their survey made in 1999, Wijewardena and Zoysa noted that in Australia 30% of the companies surveyed stated that they use job-order costing, 52% stated that they use process costing.[97]

3.1.2 Cost Methods Related to Controlling Purpose

Looking from the control effectiveness side, classification can be made as:

i. Actual Costing

ii. Standard Costing

3.1.2.1 Actual Costing

In actual costing, actual costs incurred for production is followed in terms of direct material, direct labor and manufacturing overhead costs. Then accumulated costs are allocated to processes/products using the costing method and based on predetermined allocation bases. Since it usually takes time to collect necessary

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[95] Y. Tanaka and S. Inoue, Production Methods and Product Costing Methods, Kagawa University Economic Review, vol.57, no.1, 1984 in Michael D. Shields, Chee W. Chow, Yutaka Kato and Yu Nakagawa, Management Accounting Practices in the US and Japan: Comparative Survey Findings and Research Implications, Journal of Financial Management and Accounting, V.3, No.1, 1991, p.64

[96] R. Howell, J. Brown, S. Soucy and A. Seed, Management Accounting in the New Manufacturing Environment National Association of Accountants, 1987, in Shields and others, p.64

[97] Hema Wijewardena and Anura De Zoysa, A Comparative Analysis of Management Accounting Practices in Australia and Japan: An Empirical Investigation, The International Journal of Accounting, V.34, No.1, 1999, p.63

documents for each cost item, i.e. identify the actual cost incurred, there may be certain delays in reporting.

3.1.2.2 Standard Costing

Standard costing has been used at different levels to support decision making and cost control.[98] It is used as a tool to control effectiveness of the company or specific division. In some counties, like Turkey, uniform chart of accounts are prepared as such that every company uses standard costing system.

In standard costing system, cost of each item is analyzed based on past data. In terms of direct material, direct labor and manufacturing overhead, cost of a single item is estimated. For direct material cost, both quantity and unit cost of each item that will be used in production is listed. For direct labor, employee hours at each level and their hourly rates are determined. For manufacturing overhead costs, different measurement bases may be used for those items constituting significant portion of total manufacturing overhead costs. For example, length of production can be identified in terms of hours/minutes in order to provide a standard depreciation expense over the machinery used in the production process. Similar to direct labor costs, hours worked by employees and their hourly rates can be considered for indirect labor. Actual usage of electricity in terms of kwh can be used for cost of electricity included in manufacturing overhead costs. Considering each single item in production, a formula or as it is usually called “production tree” is prepared based on predetermined rates, prices based on past experience. Throughout the period, those standard costs computed within production tree are used to price out the inventory on hand and cost of goods sold. At the end of each period, standard costs are compared with actual costs and the reasons of variations are analyzed.

Having a higher cost of direct labor than the standard cost at the end of the period requires further investigation. Total cost may be higher due to the fact that there was an unexpected salary increase after the negotiations with union or may be due to inefficiency in production process resulting in extra working hours. Management’s action in those two different situations will be different. Therefore, variations should be

[98] Fleishman and Tyson, The Evaluation of Standard Costing in the UK and US: From Decision Making to Control, p.92

analyzed in detail and reported to the management, so that necessary action can be taken. Otherwise, using standard costing will only help to produce reports within a shorter period of time, as there is no need to wait for actual costs to accumulate; however will not work as a control tool.

Standard costing is used as a control tool in many companies. However, it is important to identify management needs and accordingly decide on the cost method which fits the requirements best. In a situation where company management needs very early reporting despite the effect of certain deviations, standard costing can be selected. On the other hand, for a situation where significant price changes are experienced under the affect of high inflation and significant devaluation, company management may require accurate results instead of standard interim reporting with huge variances at final reporting.

Standard costing may help management in their decision making process, to increase efficiency in resources, to identify problems within the process and to shorten the reporting process. However, on the other hand, it may not be suitable for every company, and may be misleading if standards are not revised when significant changes occur, or if deviations are not investigated properly.[99]

The survey conducted by Ernst & Young and IMA in 2003 reflected that despite the introduction of new tools, traditional management accounting tools are still used very frequently.[100] Based on the survey results, approximately 75% of the participants noted that they use traditional tools like quantitative techniques – spreadsheets, traditional costing – full absorption costing, operational budgeting techniques and overhead allocations – based on direct labor. Remaining 25 % adopt new methods like target costing, value-based management and theory of constraint analysis.

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[99] A. Sait Sevener and Rüstem Hacırüstemoğlu, Muhasebe Sistemi Uygulama Genel tebliğlerine Göre Yönetim Muhasebesi, Alfa Basım Yayım Dağıtım, İstanbul 1998, p.179
[100] Ernst & Young, 2003 Survey of Management Accounting, 2003, IMA, p.4

In 1999, Szychta made a survey in Poland. Based on this survey results it is noted that within the participated companies, 90% of the companies use traditional full costing systems and only 8% apply standard costing.[101]

Based on the survey conducted by Venieris in 1989, 36% of Greek companies use standard costing while 63% use actual cost.[102]

3.2 Analysis of Cost Components

Cost structure and allocation of overhead costs also have certain effects on cost and management accounting of a company which will be discussed blow in detail.

3.2.1 Cost Structure

There are different types of costs and expenses occur within a business, some directly related with production, some related to a single product, some are general expenditures related with different products or services. Therefore, management accountants try to allocate such expenditures to related items, so that the readers of the financial statements and especially the management can easily analyze the costs, determine the selling price or generate future plans of the enterprise.

First the classification is made between products costs and period costs. Period costs are those costs that are incurred within the period but not directly related with products and services. General and administrative expenses, selling and marketing expenses and research and development expenses can be given as most generic examples. Product costs, on the other hand are those costs that are directly related with the production.

3.2.1.1 Product costs

In all cost accounting books cost components are classified as:

- Direct Labor; cost of employees directly involved in production process

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[101] Anna Szychta, The Scope of Aplication of Management Accounting methods in Polish Enterprises, Management Accounting Research, 2000, vol. 13, p.408

[102] George Venieris, Manmagement Accounting in Practice: A Companies' Profile, Studi Di Ragioneria E Di Economia Aziendale, Serie Monografie 16, 1996, p.141

- Direct Material; materials used in production
- Manufacturing Overhead costs; other costs that are directly related with production.

Manufacturing overhead costs also include indirect labor and indirect material, which sometimes become difficult to differentiate from direct labor and direct material costs, respectively. However, such classification is very important as any inconsistency may affect the results and manager's decisions based on those results.

It is usually very easy to identify direct material and direct labor; but sometimes accountants may face certain classification issues between manufacturing overhead costs and general administration expenses. However, before 1980s accountants did not spend much time on this issue as the total overhead costs were not that material to the total production cost. Increasing technology, resulted in automated production processes with huge machinery and equipment investments which in turn increased not only depreciation expense but also repair and maintenance expenses. Therefore the importance of classification issue for production overhead costs increased and additional regulations were announced in accounting and reporting standards for financial reporting purposes.

It is not only an issue for financial reporting purposes but also for precise reports for decision making purposes as well.

A study conducted by F. Öker in 1997 within publicly traded Turkish companies reflected that percentage of overhead costs in total costs increased within time; while percentage of direct labor decreased.[103] Survey results of Öker reflected that in 1992 cost components were:

Direct material	66%
Direct Labor	12%
Manufacturing Overhead Costs	22%

[103] Figen Öker, A Survey of the Product Costing Practices of Large Manufacturing Companies in Turkey, Boğaziçi Journal, V.16, No.2, 2002, p.24

In 1997 such allocation was changed as follows:

Direct material	70%
Direct Labor	7%
Manufacturing Overhead Costs	23%

There are various studies made in UK such as by Innes and Mitchell (1991), Drury (1993), Drury and Tayles (2000). Such surveys show that there is a decrease in direct labor and increase in manufacturing overhead costs. Based on the survey made by Drury and Lamminmaki in 2001, direct material is 61% of total cost, where as direct labor is 16% and manufacturing overhead is 21%. The same survey made in New Zealand showed 60% direct material, 19% direct labor and 21% manufacturing overhead.[104]

The survey made by Lukka and Granlund in 1996 showed that average overhead costs constitute 17% of total costs, while direct labor was around 19% in Finland. Similar survey conducted in 2001 by Hyvönen and Vourinen confirmed the overhead cost being 17% but noted a decrease in direct labor to from 19% to 15%[105]

Decreasing trend in direct labor is observed in other countries as well. Direct labor is between 10-22% in Belgium, Sweden and Denmark (Kerremans – 1991; Ask and Ax – 1992).[106] Based on the survey made by Clarke, direct labor is more than 25% in most of the companies surveyed in Ireland. In USA the survey made by Green and Amenkhienan in 1992 showed that percentage of direct labor in total costs is 11%.[107]

Shields, Chow, Kato and Nakagawa compared US versus Japanese management accounting practice in their article published in 1991. Based on their analysis, they have concluded that Japanese firms use more direct materials and less manufacturing overhead resources.[108] Survey made by Nagamatsu (1988) showed that 62% of total cost is direct materials, 14% is direct labor and remaining 24% is

[104] Dawne Lamminmaki, Colin Drury, A Comparison of New Zealand and British Product-Costing Practices, The International Journal of Accounting, 2001, p.339
[105] M. Grandlund and K. Lukka, It's a Small World of Management Accounting Practices, Journal of Management Accounting Research, 1998 in Öker, p.23
[106] Öker, p.23
[107] P.J. Clarke, Management Accounting Practices in Irish Manufacturing Business: A Pilot Study, Proceedings of the Annual Conference 1992, The Irish Accounting and Finance Association in Öker, p.23

manufacturing overhead. Similar research was made by Inoue and results were similar with 59% direct materials, 12% direct labor and 29% overhead outcome. In US firms, percentage of overhead costs is higher. The survey made by Howell, Brown, Soucy and Seed (1987) showed that 53% of total costs is direct materials, 15% direct labor and 32% overhead.[109] Those results were quite similar to the ones stated by Schwarzbach in 1985.[110]

3.2.1.2 Cost Behavior

Cost can also be analyzed according to their responses to changes in volume or activity. Accordingly, costs are classified as follows based on cost behavior:

i. Variable costs

ii. Fixed costs

Variable costs are those costs that increase or decrease according to change in volume of activity. On the other hand, fixed costs do not change according to volume within certain ranges. Cost of direct material used, electricity cost, cost of repair and maintenance can be given as examples to variable costing. The more the company produces, the higher will be the direct material cost and since working hours of machinery and equipment will increase this will cause an increase in electricity cost. For fixed costs, on the other hand, rent of the factory building, depreciation of machinery and equipment, payroll cost can be given as examples. Until the full capacity, depreciation of machinery and equipment and rent expense will not change. Furthermore, the company needs to pay employees salaries regardless of volume of production (excluding overtime expenses). Fixed costs are changed if they exceed capacity and need to make further investment which will fix those costs until they reach the revised capacity. Accordingly, fixed costs are fixed within certain limits.

It should be also considered that such classification is not done once and completed. Within time the way of doing business may change with the affect of the change in economic environment and fixed costs may turn to variable or visa versa.

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[108] Shields and others, p.63
[109] R. Howell, J. Brown, S. Soucy and A. Steed, Management Accounting in the New Manufacturing Environment National Association of Accountants, New Jersey, 1987
[110] Shields and others, p.64

For example, rent is a very unique example for fixed costs included in management accounting books. However, during last couple of decades there are many rent agreements observed per which rent is calculated over net revenue. Furthermore, certain fixed costs at the entity level may be variable at departmental level. If company prefers to use labor cost or hour as the allocation base, any fixed overhead cost of the company might be considered as variable by the department head. Actually this was observed in many companies. Department heads tried to decrease number of personnel in their department, sometimes through outsourcing, in order to decrease the overhead allocation. Accordingly, from the management point of view classifications may affect decisions and therefore should be periodically reviewed.

There are different discussions in accounting literature regarding use of variable and/or fixed costs in decision making. In his research in 1993, Drury noted that 58% of the companies use full costs and 62% use variable costs for decision making purposes. He also noted that variable costs are preferred much more by larger firms.[111]

Based on their survey in 2001, Drury and Lamminmaki concluded that in UK the most extensively used cost classification for decision making is variable cost. In New Zealand total manufacturing cost is the most extensively used cost information for decision making. Their findings actually support the view saying fixed costs are irrelevant to short-term decision making and variable costs should be used.[112]

Considering that for financial reporting purposes, companies required to prepare their financial statements using full costing, Öker investigated (2001) whether there are any other expenses such as research and development, selling and administrative and financial expenses are considered as well. She noted that 30% of the surveyed companies allocate research and development expenses to products. This ratio was noted as 33% for administrative expenses and 23% for financial expenses.[113]

[111] Öker, p.23
[112] Lamminmaki and Drury, p.336
[113] Öker, p.29

3.2.2 Allocation of Overhead Costs

Costing method is not the only item affecting the cost of product and/or service. Method used to allocate overhead costs is also very important, especially after the increasing trend observed in overhead costs with the increasing machine usage and technology involvement in production.

3.2.2.1 Traditional Allocation Methods

In allocation of overhead costs there are 2 steps. First the company needs to decide whether the allocation will be made departmental basis or a blanket overhead rate will be used. And then the second variable is the allocation bases; i.e. machine hours, direct labor hours/cost, direct material amount/cost, etc.

Based on the differences between nature of worked performed by each department, companies decide to use either departmental overhead rates, if they think there are significant differences between departments, or they may prefer to use a blanket overhead rate, if they think there is no significant difference between departments. Both methods are observed in real life.

Regarding the allocation base used, usually companies use different bases for different costs. For example, kwh is used for electricity cost, square meter for depreciation of the factory building, number of hours worked for indirect labor, number of machine hours for depreciation, repair and maintenance cost of machinery and equipment, etc.

Looking into old cost accounting books, it is noted that most of the examples show that overhead costs are allocated based on the labor hours. This is because using such a base is easy to use and since labor cost constitutes a material part of the total cost, usually a good indicator. However, as stated before, percentage of cost components have been changed with respect to 20 years before and overhead costs became an important part of total cost in most industries or companies. Therefore, new allocation methods and new allocation bases are generated so that allocation will be made as proper as possible and cost of each product / service will be more accurate.

3.2.2.2 Contemporary Allocation Methods

High competition in markets required managers to prepare a more accurate cost data for decision making purposes. Increasing technology involvement in production process which resulted in increased overhead costs, made it difficult to calculate accurate costs with simple allocation techniques used under traditional methods. While increasing technology increased overhead costs, it also enabled to use more complex allocation methods through use of computers.

The starting point of Activity Based Costing (ABC) is to compute more accurate costs. Following steps need to be applied for ABC: [114]

1. identify the major activities within the organization
2. assign costs to each activity
3. determine the cost driver for each activity
4. assign activity costs to products

ABC aims to allocate cots to products in line with the activities related to each product. On the other hand, traditional cost accounting techniques mainly allocate the costs to departments and then to products without considering the relationship at activity level. Therefore, number of allocation bases is much higher than the ones used in traditional techniques. In traditional techniques allocation bases are volume-related; whereas ABC tries to identify non-volume cost drivers.[115]

At the first step, managers need to identify the major activities within the organization. Identification of too many activities may also cause miscomputation or increase cost. Therefore, major activities constituting the business should be listed. For a typical manufacturing company, following activities can be listed in general, purchasing, receiving, set-up machines, run machines, packaging, quality control, shipment, etc.

At the second step costs should be assigned to each activity. Cot of personnel working in purchasing department, for example, will be included under costs of purchasing activity, where as cost of engineers working for machine set-up activity will

[114] Drury, p.897
[115] Lamminmaki and Drury, p.343

be included under set-up machines activity. In traditional allocation methods, those are all together considered as indirect labor cost to be allocated with the same overhead allocation rate. However, different allocation basis may be used for cost of purchasing and cost of machine set-up.

Next step will be to determine the cost driver. Management should consider the best criteria to allocate cost of each activity to products. While number of purchase orders can be taken as a cost driver for purchasing department costs, number of set-ups costs can be used for set-up costs. Length of production can be identified as a cost driver for machine run and time consumed for quality control costs.

Finally at the last step, cost of each activity will be allocated to products using the cost drivers determined for each activity. Accordingly, each product will absorb costs as much as it benefits from each activity.

For example, if a company produces hand bags for ladies and there are two main groups; one is produced from standard quality leather and the other one is produced from more expensive higher quality leather. If traditional allocation techniques are used, the only difference in terms of cost of bags will be direct material as the price of leathers used are different. However, considering that bags produced from higher quality leather will be sold at a higher price, i.e. will be more luxury, quality control procedures also will cost more in order not to have many defects at the high price products. This difference can only be realized at cost sheets if ABC is used and costs are allocated based on activities. In this example luxury bags will absorb more from quality control costs than the standard ones. Therefore, management will have more accurate cost information which will enable them to make reliable profitability analysis.

Having seen the benefits of ABC in terms of cost management, it turned out to be a way of management, namely Activity Based Management (ABM). Within this method, managers can analyze why costs are incurred, i.e. for which activity. They will not only know the cost of each product, but also cost of each activity and based on this information can also judge the effect of non-value adding activities and search for ways of minimizing non-value adding costs.

Although ABC will give more accurate cost results for companies, it is not possible to suggest to every single corporation. It is costly and cost – benefit analysis should have been done before application. Manufacturing companies having different type of products may benefit from the system as the cost of each product will be more accurate. However, if the products are in similar nature with minor changes in terms of production process, accuracy imposed by ABC may not cover its cost to apply. On the other hand, it may also be useful for service companies giving different kinds of services to its customers. Sometimes it is more difficult for service companies to determine their cost of service as there are no tangible goods sold. ABC may be helpful to properly identify cost of each service, so that the management will easily decide on which service category to focus on.

Surveys made reflect significant use of traditional allocation methods, either through departmental overhead rates or blanket overhead rates. However, there are also companies who started using ABC or considering to use.

Öker (2001) stated that 79% of the companies in Turkey use departmental overhead rate to allocate overhead costs and the remaining 21% use blanket overhead rates. [116]

Findings of Drury (1993) in UK are similar to Turkish companies with 26% blanket overhead rate. In 2001 Drury and Lamminmaki confirmed 27% using single plant-wide rate for allocation of overhead costs. Same survey showed that 45% of companies first allocate overhead costs to production departments and then charge to products using departmental overhead rates. 21% noted that cost of some service/support departments are charged to products using a separate overhead rate.[117]

Drury and Lamminmaki also analyzed New Zealand in 2001 and noted that 45% of the companies allocate the overhead costs to production departments first, and then charge to products using departmental overhead rates. 46% charge overhead

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[116] Öker, p.26
[117] Lamminmaki and Drury, p.340

costs with a single plant-wide rate. And the remaining 9% use separate overhead rates.[118]

Studies made in Scandinavian countries reflect that use of blanket overhead rate is almost nil. On the contrary, Clarke (1992) noted that 51% of companies in Ireland use blanket overhead rates.[119]

Öker (2001) noted that the most common base used to allocate overhead costs is direct labor hours/cost with 62%, although overhead costs are much bigger than the direct labor cost. However, use of machine hours is also very common with 50% usage. 26% of the companies noted that they use direct material amount and 24% direct material costs, which makes 50% usage for direct material. As there are cases where more than one allocation bases is used the percentages are greater than 100%.[120]

Wijewardena and Zoysa (1997) noted that the most popular allocation base for manufacturing overhead costs is direct labor hours/cost in both Australia and Japan. Other allocation bases used are machine hours (Australia -17%; Japan – 27%), units of output (Australia -17%; Japan – 32%) and direct material cost (Australia -14%; Japan – 36%).[121]

Besides the manufacturing overhead costs, Drury and Lamminmaki, while making a comparison between New Zealand and UK, noted that direct labor hours and manufacturing costs are the two most popular approaches in both countries to allocate non-manufacturing costs to products. Manufacturing cost reached 32% in UK and 26% in New Zealand; whereas, direct labor hours reached 38% in New Zealand and 25% in UK. Within the surveyed companies it is worth to state that 28% in New Zealand and 23% in UK do not allocate non-manufacturing costs to products.[122]

[118] Lamminmaki and Drury, p.340
[119] Öker, p.25
[120] Öker, p. 26
[121] Wijewardena and Zoysa, p.59
[122] Lamminmaki and Drury, p.341

3.3 Management Control and Performance Measurement

Management reports derived from management accounting system are valuable if they are used by management for decision making, control and performance measurement purposes. If they are prepared but left over the desk of manager, it is time consuming. Furthermore, it will not take long that personnel will recognize that such reports are not used and accordingly will not give required support and integrity. This, of course, will end up with misleading management reporting. Rare referral to management accounting reports will then cause misinterpretations. Accordingly, management accounting system can be improved as long as it is actually used for control and performance measurement purposes.

The management accounting system should motivate the organizations to work towards company's objectives.[123] In order to manage this, first of all it should be supported by management. Due care should be given so that subordinates would also pay attention and work for. However, it should not be one way direction. Those who will be responsible for achieving the targets should be involved in planning stage. Since they also participated, shared their own ideas, discussed limitations, they will share the ownership and try to do their best to reach the co-determined objectives.

It also important to make clear areas of responsibility for each department and individual. Therefore certain responsibility centers are determined within organizations. The center managed by a person is usually responsible for performing certain functions using certain resources; i.e. producing outputs with given inputs. Usually responsibility centers are categorized into following 3 captions:[124]

i. Expense centers

ii. Profit centers

iii. Investment centers

Departments handling the support functions are expense centers. They do incur expenses, but do not recognize revenue. Accounting department, human resources department and public relations department can be given as examples.

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[123] Robert N. Anthony, Management Accounting Principles, Richard D. Irwin Inc., 1965, p.250

Responsibility centers that both generate revenue and incur expenses are considered to be profit centers. Investment centers are responsible not only for profits but also for the effective use of the assets. This classification is not widely used by organizations, unless they are large incorporations working in industry and geographic segments.[125]

Responsibility centers are considered when preparing budgets. Involvement of executives of the responsibility center is essential for successful budgeting process.

Considering the management control and performance measurement techniques, following classification can be made:

i. Budgets

ii. Performance measurement of investments

3.3.1 Budgets

Budgeting can be defined as[126]

“The process of identifying, gathering, summarizing and communicating financial and non-financial information about an organization’s future activities”

It is prepared based on the organizations long-term plans. Accordingly, it is a reflection of the managements’ plan for certain accounting periods. However, more important aspect is that it is a tool to communicate managements’ plans to subordinates. Top management’s expectations are communicated with numbers in a preset format.[127] However, although it is a way to communicate managements’ expectations and plans from top to down, it is also suggested that related knowledgeable personnel should also participate budget preparation process. This will help in two ways. First as they are the line workers, they may have better knowledge in certain areas than their supervisors. Secondly, if they participate at the beginning, they

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[124] Anthony, p.250-251
[125] Anthony, 252
[126] Neddles, Powers and Crosson, p.1025
[127] Ümit Ataman and Rüstem Hacırüstemoğlu, Yöneticiler için Finans ve Muhasebe Bilgileri, Türkmen Kitabevi, İstanbul, 1999, p.334-337

will feel more responsible, believe in budget process and work harder to reach the budgeted results.

While it is a communication tool at beginning of the period, during and at the end of the period it is used as a control tool. Managers follow the realization percentages through budgets prepared and make revisions if necessary within the period. Based on budget – actual comparison throughout the period, they may need to revise the budget if they think it is not realistic. Or they may take actions, change the way they are doing and try to reach the budgeted results at the end of the period.

3.3.1.1 Budgets Based on Contents

It is possible to classify budgets from different perspectives. Based on the content of the budget following classification can be made:

i. Operational budgets

ii. Financial budgets

Operational budgets include sales budget, cost budget (direct labor, direct material and overhead separately if preferred), selling, marketing and administrative expenses budget. In other words it is budgeted income statement.

Financial budgets include cash flow budget and capital expenditures budget. Having operational budget, cash flow budget and capital budget prepared, with a combination of them budgeted balance sheet can be prepared.

A combination of budgeted income statement, budgeted balance sheet and a cash budget is called master budget.

While preparing a budgeted income statement, detail worksheets need to be prepared for each major class of account. Starting point will be the sales. First, total estimated quantity of sales and unit sales price should be determined for each product. Based on this sales budget, next step will be to prepare budget for cost of sales. For a manufacturing company, for example, based on past experience how much direct material is needed, how many employees need to work for the production will be identified. Accordingly, production plan will be made. For this production plan, overhead costs are estimated; i.e. how many machine hours needed, what will be electricity usage, how much will be the maintenance cost, etc. Furthermore, certain selling and marketing activities should be taken in order to reach budgeted sales volume. Accordingly, cost of those activities need to be estimated and included in budgeted income statement. On the other hand, there are certain support departments that not directly related with the production but essential for company operations, like accounting department, human resources department. It is not difficult to estimate the personnel cost of those departments, knowing number of personnel working and salary increases. For other expenses past data and future plans should be combined for a meaningful budgeted amount.

There are two main budgets under financial budgeting. First one will be capital budget. Having production plan done, company management will know whether they need further machinery and equipment investment either to increase capacity or renew the existing plant.

Second one will be the cash flow budget. From the operational budget, cash outflows from purchase of goods and services and cash inflows from collection of sales should be determined for each period. From the capital budget, cash flows from investing activities will be determined. Accordingly, the company will know for each period whether they will have excess cash or cash shortage. Based on this information they may also plan their cash management policies; short-term investments, fund raising through new loans, etc.

3.3.1.2 Budgets Based on Preparation Techniques

Based on the preparation techniques used, another classification can be made as flows for budgets:

i. Static budgets

ii. Flexible budgets

Static budgets are prepared at the beginning of the period for certain planned level of activity.[128] Accordingly, if there is a planned sales volume, all costs and expenses are determined based on this volume of sales. At the end of the period even

[128] Ray H. Garrison and Eric W. Noreen, Managerial Accounting, McGeaw Hill, 2003, p.482

if the targeted sales volume cannot be reached, the figures representing budgeted cost and expenses remain constant based on the predetermined sales volume. Therefore, while analyzing the gaps between actual and budgeted amounts, the reader should consider the effect of actual sales volume on budgeted costs and expenses so s/he can judge the costs and comment on performance. Even in static budgets there may be revisions within the period, but this does not change the way it is prepared. Budgeted amounts will be fixed at the revised level of sales, if there is revision within the period.

Flexible budgets provide estimates of costs at any level of activity within certain limits.[129] While preparing an actual versus budget analysis, budgeted figures are reflected with budgeted cost at actual volume. Using flexible budget will not affect treatment of fixed costs like rent expense, salary expense of admin personnel, etc. However, while analyzing variable costs, it should be discussed with the volume of activity. Discussing the variance in direct material usage compared to budgeted figure is not possible without considering the level of production. Unless budget reflects the budgeted cost of direct material for actual production level, it is not possible to identify unexpected price changes or increase in consumption due to inefficiency in production process.

3.3.2 Performance Measurement of Investments

It is discussed that investments centers are also responsible for effective use of assets. Therefore they also have the authority and responsibility for investment decisions. It was also noted that this classification is not widely used by companies unless they are large organizations with wide geographical range or working on different segments. However, for small or medium size companies, the company itself can be considered as investment center.

Since the investment center is responsible for effective use of its assets, performance measurement criteria should include certain parameters to assess its effectiveness. Frequently used financial criteria are:

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[129] Garrison and Noreen, p.482

i. Return on investment (ROI)

ii. Residual income (RI)

iii. Economic Value Added (EVA)

Return on investment is a very common performance measurement ratio used for investment centers. It is simply calculated by dividing operating income by total assets invested. Total asset figure is the average of the period considered. Through this ratio, management will be able assess the benefit of using the assets owned. Especially for further investment decisions, return on assets will give valuable indications to the company management.

Residual income is computed by deducting expected ROI from operating income. The managers can assess whether the operations generate a positive result after taking into account the expected return over invested amount into the business.

Recently, another performance measurement criteria is introduced, economic value added (EVA). In EVA, cost of capital is also taken into account while assessing the performance of investment center.

Shareholders invest certain amount of money into the business and expect to earn some money from their investment. Their expectation will be depended on return on investment of similar equity instruments in the market. They will compare what they will actually earn with what they would earn if they would have invested in other equity instruments with similar risk level. In fact, EVA gives this difference; .i.e. difference between what was earned from this investment and what would have been earned if invested in similar equity instruments.

If the result of EVA is zero, this means the company provided same return with other similar equity instruments would have provide. So, there is no additional profit for the shareholders.

Although the definition is so simple, calculation of EVA may not be that simple for companies. Before deducting cost of capital from operating result, first of all, accounting profit should be converted to the economic profit. Therefore, different adjustments may be required. Certain items considered as expense in accounting records may not be considered so. Examples can be given as research and development expenses, depreciation, etc. second step will be to identify cost of capital, i.e. what is the shareholders' expectation from their investment in this company. Finally, cost of capital calculated based on shareholders' expectations (return on investments of similar equity instruments) is deducted from economic profit calculated with certain adjustments. Remaining balance is the economic value added by the company to its shareholders.

Makelainen defines aim of EVA as measuring the change in shareholders' wealth. According to this perspective, earning a return greater than cost of capital, increase the value of the company, and earning less than cost of capital decreases the value of the company.[130]

Although there are still some companies that use cost data mainly or only for financial reporting purposes, those who use it for management control purposes or for performance measurement purposes make majority. Both expectations of employees and employers are increasing under the growing economy. In order to meet those expectations, system needs certain measurement criteria so that results will be analyzed and performance to be measured. Initially budget vs. actual comparisons were the main measurement criteria. However, changing trends, increasing demands, variety in way of doing business required additional new techniques for management control and performance measures. Accordingly, many management accounting surveys included certain topics to analyze the trend in practice.

The survey made in 1999 by Venieris found that nearly all companies participated in the survey use cost information for determination of selling price in Greece. However, inventory valuation and production cost control are the top 2 topics rated as having great importance.[131]

Shields, Chow, Kato and Nakagawa (1991) found that sales figure is the most common performance criteria for Japanese companies for evaluating divisional managers. 69% of the surveyed companies replied that they use sales as performance criteria. The second important performance criteria were identified as profit minus

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[130] Makelainen, p.8
[131] Venieris, p.142

corporate costs with 44%. The same survey made in US showed that the most important performance criteria were return on investment (ROI) with 75%. Controllable profit followed ROI with 49%.[132]

When financial criteria were asked, Japanese firms replied return on sales with 72% and in US it was more diversified. Return on investment, profit before interest and taxes, budgeted performance were rated as having similar usage rates, between 45% and 52%.[133]

When it is asked whether they allocate corporate indirect costs to departments for management control purposes, 20% of US firms noted that they do not allocate either full or partially. Same rate was 15 for Japanese companies.[134]

In 1997 Wijewardena and Zoysa found that companies preferred to use return on sale for divisional performance measurement increased to 82% in Japan. It is followed by return on investment with 37%. Same research made in Australia showed that return on investment (59%), return on sales (40%) and variances (48%) are most used common criteria.[135]

Guilding, Lamminmaki and Drury (1998) found that budget is being considered an important tool for performance measurement. 71% of New Zealand participants rated budget as "above average importance" or "vitally important" for performance measurement. This rate was 67% for British participants. Furthermore, 42% in New Zealand and 46% in UK noted that ability to attain budget should be the main criteria in assessing the ability of the management.[136]

Based on the survey made by Xydias-Lobo, Tilt and Forsaith in 2001, it is noted that most commonly used management control techniques were found to be operating budget (90%), cash flow budgets (86%), strategic planning (81%), capital budgeting (78%), profitability analysis (62%) and benchmarking (57%) in South

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[132] Shields and others, p.68
[133] Shields and others, p.68
[134] Shields and others, p.68
[135] Wijewardena and Zoysa, p.63
[136] Chris Guilding, Dawne Lamminmaki, Colin Drury, Budgeting and Standard Costing Practices in New Zealand and United Kingdom, The International Journal of Accounting, 1998, Vol.33, No.5, p.578

Australia.[137] Same survey showed following performance measures used with corresponding usage percentages:

Non-financial Measures	66%
Divisional Profits	62%
Customer Satisfaction	55%
Return on Investment	47%
Balanced Scorecards	27%
Residual Income	14%

Hatem El-shishini and Colin Drury analyzed divisional performance measurement in UK companies in 2000. Based on the survey, they have concluded that majority of the companies did not use identical performance measures for division managers and divisions. Only 18% of the surveyed companies noted that they use identical performance measures both for evaluating performance of a division and the division manager. 55% of the participants ranked “profit before charging interest on capital” as the most important measure in performance measurement. Second performance measurement criteria was “profit after charging interest on capital”, in other words residual income, with 14%. Return on capital was ranked as most important only by 7% of the participants; although it is widely discussed under financial statement analysis or performance measurement chapters of accounting and finance books. From the other criteria asked to rank, “cash flow figure” got 8% and “economic value added” (EVA) got 9%. Within the same survey, it is asked whether non-financial measures are also used for performance measures and 78% declared that they use non-financial measures. From this group 55% noted that they use balanced-scorecard approach. It is also interesting to note that 25% noted that they did not specify the approach they adopt for incorporating non-financial measures. [138]

Although there are new management accounting tools introduced, survey results show that budget is still one of the most popular management accounting tool being used by companies.

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[137] Maria Xydias-Lobo, Carol Tilt, David Forsaith, The Future of Management Accounting: A South Australian Perspective, JAMAR, Vol.2, No.1, Winter 2004, p.65
[138] Hatem El-shishini and Colin Drury, Divisional Performance Measurement in UK Companies, Working-paper, University of Huddersfield, UK, 2000, p.11-12

Wijewardena and Zoysa (1997) noted that all companies in Australia prepare budgets for profit and loss statement. 99% of the surveyed companies declared that they also prepare capital expenditure budget and cash budget. Operating budgets and balance sheet budget were also found to be commonly used with 98% and 97% ratings, respectively.[139]

Findings in Japan within the same survey in 1997 were quite similar. Main difference arises on balance sheet budgets (79) and capital expenditure budgets (79%) with lower usage rates in Japan compared to Australia.[140]

When frequency of budgets is investigated, it is noted that Australian firms tend to prepare annual budgets and Japanese firms prefer semi-annual budgets. On the other hand, although 95% Japanese firms declared that they have long-range plans, only 4% prepare budgets beyond one year. Preparing budgets beyond one year is more popular in Australia with 15% average; however, companies having long-range plans are around 83%.[141]

In their comparison between Japan and USA, Shields and Chow, based the survey results of Kato (1986), concluded that in terms of capital budgeting decisions, Japanese firms tend to focus on pay back period with 84% usage rate. The next tool was identified as average rate or return with only 35% usage rate. In USA, however, different surveys made (Oblack and Helm – 1980, Stanley and Block – 1984, Kim, Crick and Farragher – 1984) gave similar results as NPV and/or IRR is the most popular tool used for capital budgeting decisions (64% - 82% usage rates). They also analyzed the frequency of revision and noted that Cress and Pettijohn's survey (1985) found that there is diversity within US firms. 26% noted that they do not revise, 25% noted that they revise quarterly and 21% noted as needed. Survey results of Mizoguchi (1988) reflect that 59% of Japanese firms tend to revise their operational budgets semi-annually. This finding is actually turned out to be preparation of semi-annual budgets in the survey made in 1991 by Shields, Chow, Kato and Nakagawa.[142]

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[139] Wijewardena and Zoysa, p.58
[140] Wijewardena and Zoysa, p.58
[141] Wijewardena and Zoysa, p.58
[142] Shields d others, p.65

In 1999 the survey made by Szychta in Poland showed that, considerable portion of the companies surveyed (80%) prepare annual budgets. However, preparation of a completed master budget is not that common. Only 17% of surveyed companies noted that they prepare a complete master budget. Others mainly prepare certain components, like sales, costs, etc. Companies that do not prepare budget are either small trade and service companies or large state enterprises. [143]

Analyzing the budgeting and standard costing in New Zealand and UK, Guilding, Lamminmaki and Drury (1998) found that 42% of companies in UK use flexible budgets. This rate was 27% in New Zealand. However, the authors concluded that this difference is not because of country effect but due to the company size effect. They also concluded that considering the previous surveys made by Cress and Pettijohn in US and Puxty and Lyall in UK, there is an increase in use of flexible budgets.[144]

3.4 Strategic Management Accounting Practices

The term “strategic management accounting practices” introduced to the literature with the new management accounting techniques. Increasing competition and globalization pushed companies to differentiate themselves not only in terms of product qualifications but also in terms of management techniques. Offering cheaper prices does not always mean higher profits through higher sales. Best quality products will not guarantee high sales volume. The management needs to define where they would like to be in future, and define their strategies to reach those targets in the long-run. Cost accounting may be a function of financial accounting, but management accounting should give necessary information to management to enable them take correct actions to reach company’s targets.

Management accounting is a system that gathers, classifies, analyze and report the information that will help the management to decide and control.[145] Strategic management accounting is defined by Nergis Tek as integration of management plan

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143 Anna Szychta, p.411
144 Guilding, Lamminmaki and Drury, p.580
145 Nedim Yüzbaşıoğlu, İşletmelerde Stratejik Yönetim ve Planlama Açısından Stratejik Maliyet Yönetimi ve Enstrümanları, Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi sayı:12, 2004, p.387-410

and programs with accounting tools in order to adopt themselves with continuously changing environment. Strategic management accounting requires continuous improvement in product costing, controlling and decision making through planning, budgeting.[146]

Through strategic management accounting, a company may select to be the price leader in the market through lowering the costs or select to be the market leader in terms of quality and product specifications. In making their decision and implementing the plans to reach the strategic targets, the management of the company should consider external environment of the company as well as the internal environment.[147]

Different definitions can be found in literature regarding strategic management accounting. Following, however, can be listed as main characteristics of strategic management accounting tools used.[148] Strategic management accounting;

i. includes certain external information regarding competitors

ii. builds the relationship between the targeted strategic position of the company and management accounting

iii. gains competitive advantage by analyzing and optimizing costs of the company and differentiating services and/or products sold.

Under the concept of strategic management accounting, many different instruments have been introduced, namely, target costing, benchmarking, ABC, product life cycle, etc.

Guilding, Cravens and Tayles made a comparative research in Australia, USA and UK regarding the use of Strategic Management Accounting Practices. They have included twelve strategic management accounting practices in their survey: attribute costing, brand value budgeting and monitoring, competitor cost assessment, competitive position monitoring, competitor appraisal based on published financial

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[146] Yüzbaşıoğlu, p.394
[147] Yüzbaşıoğlu, p.401
[148] Beverly Lord, Strategic Management Accounting: The Emperor's New Clothes?, Management Accounting Research, 1996, vol.7-3, p.347-366

statements, life cycle costing, quality costing, strategic costing, target costing and value chain costing. Based on the survey results they have noted that the strategic management accounting practices have widely ranging degrees of application. However, competitor accounting and strategic pricing are the most popular ones. Although use of strategic management accounting practices was relatively low, the perceived merit scores were significantly above the usage rates. They also noted that considering the company size effect, the findings were relatively consistent within the surveyed countries. Although they have noted significant usage rates of certain strategic management accounting techniques and more important higher merit rates, they have also found that the term "strategic management accounting" is not very well understood and used.[149]

In 1998, Chenhall and Langfield-Smith made a research in Australia to assess the usage rates of management accounting techniques. They have concluded that although recently developed management accounting techniques were found to be applied by Australian companies, it is also noted that traditional management accounting techniques were more widely adopted. They also noted that many firms intend to place greater emphasis on these new management accounting techniques in future.[150]

In 2003, Ernst & Young made a survey in corporation with Institute of Management Accountants (IMA) and summarized their key findings as follows:[151]

i. Cost management is regarded as a key contributor towards achieving strategic objectives.

ii. Decision makers and enablers characterize the need for accurate cost information to be their top priorities.

iii. Despite the need for cost information, several factors are perceived to impair cost visibility.

[149] Chris Guilding, Karen Cravens, Mike Tayles, An International Comparison of Strategic Management Accounting Practices, School of Accounting and Finance, Griffith University, Australia, p.27-29
[150] Robert Chenhall, Kim Langfield-Smith, Adoption and Benefits of Management Accounting Practices: An Australian Study, Management Accounting Research, 1998, vol.9, p.15
[151] Ernst & Young, p.3-5

iv. Most respondents did not consider adopting new cost management tools and systems in the current economic environment.

v. Despite the introduction of new tools, traditional management accounting tools are still used very frequently.

Management buy-in is seen as the most significant trigger for adoption. Adequate technology and in-house expertise are also critical. Decision makers require a clear and qualified value proposition prior to implementing new tools.

3.4.1 Just-in-time Management

The purpose of just-in-time management is to reduce costs, improve product quality and enhance productivity. Since the objective is to work with zero inventory, cost of carrying inventory will decrease and reduce total costs. Since there will be no additional finished goods to replace defects, the company need to decrease defect ratio by increasing the quality. Resources saved through increasing quality and decreasing excess inventory, will be used to enhance the production.

In order to be successful just-in-time management, companies need to take following actions:[152]

- The company is required prepare its production plan with minimum inventory if not zero inventory. Accordingly, not only finished good inventory but also raw material inventory needs to be followed closely. Raw material purchases should be made in small sizes based the production plan.
- Since production will be performed in small quantities, production process should be reorganized in order to have lower set up costs. This may require relocation of some machines and/or production lines.
- Workforce should be well educated and able to run different machines in order not to loose time.

[152] Needles, Powers and Crosson, p.954-956

- High quality is required not only for the output but also for the input in order not to have defect finished goods at the end. Continuous quality control procedures should be in effect. Those quality control procedures should be preventive instead of detective. Accordingly continuous improvement is encouraged.

In every accounting text book, it is noted that Just-in-time management is first applied by Japanese companies and then introduced to other European and American companies as well. Monden claims that although there were many articles published regarding just-in-time management in USA, there was almost no empirical research done and case studies were mainly based on Japanese firms.[153]

3.4.2 Quality Costs

Increasing competition requires companies to increase quality of their products and services. In fact this reality was first understood in Japan and strategic management accounting techniques related with quality improvement developed in Japan and then introduced to the rest of the world.

High quality products and services will have a stronger position in the market; accordingly, increasing quality costs will increase sales as well. On the other hand, increase in quality will decrease defects which will decrease fixing costs.

Quality costs may include costs at different stages of production. Quality control actually starts before the production process. Internal quality control system should be properly designed and related personnel should be trained. Second step will be the observations, tests and assessments performed to check the quality of the products and services. During the quality control procedures certain defects may be identified which requires fixing costs. If quality control procedures do not identify the defects, returns and/or customer complaints will probably be the sign for undetected quality problems which will also need further time and cost to fix.[154]

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[153] Yasuhiro Monden, "Cost Accounting and Control in the Just-in-time Production System" in Japanese Management Accounting – A World Class Approach to Profit Management edited by Yasuhiro Monden and Michiharu Sakurai, Productivity Press, 1989, p.35
[154] Hacırüstemoğlu, p.319-323

Accordingly, as the companies increase their quality control procedures, especially the preventive ones, increasing quality costs will have a decreasing effect on total costs and increasing effect on profit.

During last decade there observed a significant increase in total quality management projects ongoing in companies. There are certain examples in Japan and USA that voluntary groups organized in companies for this purpose. Main objectives of those groups are to encourage foremen and workers to study quality controls together, to apply the results of their studies to the work and to improve capabilities of foremen and workers.[155]

3.4.3 Target Costing

Companies try to decrease their costs in order to increase their profits. However, since 80%[156] of the product's costs are committed at the stage of product design, cost reduction efforts during the design stage make more sense.

In target costing, first sales price in the market is determined and then a target profit is deducted to reach target cost. As the target cost is determined, engineers are required to design the production process for such product in a way that cost will not be higher than the predetermined target cost. If it could not be designed within the given limits, at targeted cost, the product will not be produced.

Target costing in Toyota applied in 1960s is discussed in literature as an example besides many other applications from Japan.

3.4.4 Kaizen Costing

Another strategic management accounting tools introduced to the world by Japanese is Kaizen costing. In fact Kaizen is a Japanese word for continuous, small and incremental improvement. In Kaizen costing the target is to reach small improvements in every stage of production. Accordingly, it is a target given to

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155 Akira Ishikawa, "Principles of QC Circle Activities and Their Effects on Productivity in Japan " in Japanese Management Accounting – A World Class Approach to Profit Management edited by Yasuhiro Monden and Michiharu Sakurai, Productivity Press, 1989, p.73

156 Kaplan and Atkinson, p.223

operational personnel. It is similar to target costing as in both cases there are predetermined targets. While in target costing product design is made such that targeted cost will be reached, in kaizen costing the target is to reach incremental cost reductions in any stage of the production process. Kaizen costing requires continuous improvement philosophy within the company. Recently, it is noted that those targets are included in balance scorecards of operational personnel and evaluated at year end.

3.4.5 Activity Based Costing

Within the new management accounting techniques, the most popular one is Activity Based Costing (ABC). Therefore, there are many articles written, surveys made on ABC adoption.

Activity based costing is considered one of the best tools for refining the cost system. ABC focuses on activities while refining the costs. An activity may be an event, task or a work for specified purpose such as designing products, set-up machines, purchasing of raw materials, operating machines. Under ABC, costs are allocated to products based on the activities needed to produce each product.[157]

In fact it is not only a costing system but a way to manage the company, for which more general term Activity Based Management (ABM) is used. Under ABM, a manager can easily find answers to the basic questions in various stages of management cycle:[158]

Planning – At the planning stage the manager will be able to analyze value adding activities to the business; the resources that are needed to perform those activities and how much a product should cost.

Executing – It will be easy to identify the actual cost of the product. They will be able to identify the activities performed well and resources that are actually consumed.

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[157] Charles Horngren, Srikant M. Datar, George Foster, Cost Accounting – A Managerial Emphasis, Prentice Hall, 11th edition, p.141
[158] Needles, Powers and Crosson, p.941-942

Reviewing – Managers would like to know whether they have managed to reduce costs by eliminating non-value adding activities. They also would like to know what further actions need to be taken to reduce cost.

Reporting – Financial reporting to third parties will reflect the results of activity based management as an affect to company's earnings and will answer the question of whether the company made required profit.

Innes, Mitchell and Sinclair made 2 surveys in UK in 1994 and 1999 and tried to identify the adoption trend for ABC.[159] Survey results showed that the proportion of ABC users and of those assessing it have fallen down. In 1994, 21% of companies noted that they were using ABC, and this rate was found to be 18% in 1999. Those who consider adopting ABC were 30% in 1994 and came to 20% in 1994. They also noted larger firms tend to adopt more compared to small firms. In 1999 while the average adoption rate was 21%, it was 33% for larger companies and 11% for smaller companies. The trend was same in 1994 with 26% and 16% adoption rates, respectively. They found a much higher adoption rate in financial sector with 41% in 1999 and 54% in 1994. 16% of manufacturing companies confirmed adoption of ABC in 1999 and it was decreased to 14% in 1999. Decreasing pattern was also valid for non-manufacturing companies from 22% to 12%. In assessing the success of ABC, they found out that the overall success of ABC within the adopting companies in 1999 was rated as 3.9 out of 5. Furthermore, 25% of them think that ABC adoption has been financially beneficial to their companies. In 1994 survey, budgeting, cost modeling and cost reduction and cost management were the top 3 items associated with overall success. In 1999, however, budgeting lost its importance and took ninth position. First 3 were new product or service design, customer profitability analysis and cost reduction and cost management.

Survey made by Lamminmaki and Drury in 2001 showed that only 5% of the companies in New Zealand start using ABC. 12% were intending to use and 32% were considering to use. On the opposite side, 41% noted that there is no discussion about

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[159] John Innes, Falconer Mitchell, Donald Sinclair, Activity Based Costing in the UK's Largest Companies: A Comparison of 1994 and 1999 Survey Results, Management Accounting Research, 2000, vol. 11, p 351-357

introduction of ABC and 10% noted that they have discussed and decided not to adopt.[160]

Alsaeed Khalid made a survey in Saudi Arabia in 2003 and found that approximately 33% of the firms apply ABC and 8% is considering to apply. 36% noted that they never considered to apply, whereas 23% noted that they have considered but rejected. He also noted that ABC adoption is directly related with firm size. 10 out of 13 firms adopting ABC were large companies compared to other participants. 17 out of 26 non-adopters were smaller companies within the participating companies. Furthermore, he found a positive relationship between the diversity of products and ABC adoption. ABC adopters in Saudi Arabia rated measuring cost accuracy as the most important ABC incentive. It is followed by measuring customer profitability. Non-adopters, on the other hand were asked to give their reason for not adopting ABC. The highest score was that ABC does not confirm to the company operations. Second common reason was the sufficiency of the existing cost system. Others listed as, lack of adequate expertise to develop ABC, prior failed cases experienced by other firms, need of much more time, unfamiliarity with ABC, employees hesitate to change their behavior and finally lack of top management support.[161]

Clarke, Hill and Stevens made a survey 1997 and noted that 12% of manufacturing companies in Ireland implemented ABC, 20% were assessing ABC, 13% rejected and 55% did not considered ABC implementation at all. Consistent with other researches made in different countries, they also noted a positive relationship with firm size and adoption of ABC. They also noted that ABC adoption rate of the drug, pharmaceutical and healthcare industry (31%) is far above the average (12%). Survey results show that ABC adoption rate is higher in multinational companies. Given the fact that most of the companies classified under drug, pharmaceutical and healthcare industry are multinationals, it is not surprising to see this correlation. In line with the literature, the results show that companies having greater product diversity tend to use ABC more than the others. When managers are asked to state the benefits of adopting ABC, 54% noted that it gives more accurate cost information for product costing and pricing; 46% noted that it improved cost control and management; and

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[160] Lamminmaki and Drury, p.343

[161] Alsaeed Khalid, Activity Based Costing in Saudi Arabia's Largest 100 Firms in 2003, The Journal of American Academy of Business, Cambridge, no.2, March 2005, p.287-291

42% noted that it improved insight into cost causation and behavior. Better performance measurement and more accurate customer profitability analysis were also listed by approximately one fifth of participants.[162]

In her survey made in 2001 in Turkey, Öker noted that ABC adoption within the surveyed companies is nil. She further asked the reason not adopting ABC and 58% replied that current system provides accurate results, 26% noted that ABC is not suitable for their business. Those who expected greater cost of adopting ABC than its benefit was 8%. Another 8% noted that they do not know ABC very well.[163]

In 1999, Dahlgren, Holmström and Nehler noted that ABC implementation is around 16% within Swedish companies. 53% even did not discuss implementing ABC and 19% discus to adopt. It is interesting to note that 56% of those who declared that they use ABC, also noted that they use partially. Only 17% of the companies adopting ABC noted that they fully use ABC.[164] Based on the survey results they noted that there 3 main factors influencing manufacturing firms in Sweden to implement ABC. Those were size, strategic importance of costing and budgetary control. Larger firms tend to apply ABC more than the smaller ones, as they have necessary resources. It is also noted that those who use ABC, regard cost as having higher strategic importance. It also those companies who give higher importance to control.[165]

3.4.6 Value Based Management and EVA

The concept of Economic Value Added (EVA) was popularized and then trade-marked by Stern Stewart and Company in 1980s. It is actually similar to residual income; however, takes into account cost of capital as well. Therefore, looking from the shareholders perspective considered to be a better indicator of company performance and therefore advocated by many academicians and practitioners.

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[162] Peter Clarke, Nancy Thorley Hill, Kevin Stevens, Activity-based Costing in Ireland, Barriers to and Oportunities for Change, Critical Perspectives on Accounting, 1999, vol.10, p.449-457
[163] Öker, p.30-31
[164] Jörgen Dahlgren, Magnus Holmström, Henrik Nehler, Activity Based Costing – Diffusion and Adoption, Paper Presented to the European Accounting Association Annual Congress, Athens, Greece, 1999, p.12
[165] Dahlgren, Holmström and Nehler, p.19

Stern Stewart describes EVA process in 4 main applications:[166]

i. Measurement -- It is used for corporate performance measurement. First it is required to translate accounting profit into economic reality. Financial statements prepared in accordance with certain predetermined accounting standards like US GAAP, IFRS, etc., require certain adjustments to bring closer to true economic results. One example to approximately 160 adjustments identified by Stern is accounting for research and development costs. Research and development costs are expensed as incurred in accordance with US GAAP while research costs are expensed and development costs are capitalized to the extend that they will bring economic values into the business in future in accordance with IFRS. However, in EVA model of Stern, such costs are capitalized and amortized over its economic life considering that those expenditures are actually investments for future operations. Many other adjustments can be identified regarding depreciation, bed debt provisions, restructuring charges, inventory valuation, etc.

ii. Management system – The system includes strategic planning, allocating capital, pricing, setting annual goals. While the goal is increasing EVA, all managers give the right decisions for shareholders. In companies using EVA managers have 3 ways to increase EVA:

   a. they can simply try to be more efficient and earn more from current operations without making further investment,

   b. they can invest into new businesses in which return on investment will be higher than cost of capital,

   c. they can release capital from the business and as a result turn working capital faster.

iii. Motivation – In a company who applies EVA as corporate performance measurement, it will increase success of the system if managers would

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[166] About EVA, www.sternstewart.com

act as the owners, i.e. try to increase value to the shareholders. If managers are paid based on the performance measurement linked to EVA, they will be able to look from the shareholders' side.

iv. Mindset – Stewart believes that, if EVA is applied properly it transforms to a corporate culture. Under EVA system, there is decentralization in decision making where as managers are responsible for and their rewards are based on value created. EVA provides a common language across departments and employees by putting financial and operational functions on the same basis. It eliminates mistrust between operations and finance.

In practice it is noted that EVA is both used for company performance as a whole and for departmental performance measurement. Companies using EVA as performance measurement tool, usually do not concentrate on the value of EVA but concentrate on the change in value with respect to prior year/period.[167]

Stern Stewart, in 1999, noted that EVA has been promoted in the UK, Australia, Canada, Brazil, Germany, Mexico, France and Turkey.

Various surveys have been made to analyze the relationship between the EVA values and stock prices. Bao and Bao made an analysis in 1998 and concluded that EVA is significant factor in explaining market returns in USA. In 1993, Riahi-Belkaoui also made similar analyses in USA and noted that EVA figures are major determinant of market returns. In 1997 Rogerson made a different analysis and investigated the correlation between management decision and use of EVA. He concluded using EVA as a performance measure, results in efficient investment decisions by managers.[168]

In his survey conducted with Turkish 500 largest manufacturing companies in 2005, Coskun noted that importance of EVA, as a financial performance measurement tool, is rated on average 4.2 out of 5. [169]

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[167] Rüstem Hacırüstemoğlu, Münir Şakrar, Volkan Demir, Etkin Performans Ölçüm Aracı (EVA), İSMMO Odası Mali Çözüm Dergisi, Yıl:12, Sayı:59, Nisan-Mayıs-Haziran 2002, p.10-21

[168] Andrew C. Worthington, Tracey West, A Review and Synthesis of Economic Value Added Literature, p.13-15, www.bus.qut.edu.au

[169] Ali Coskun, İşletmelerde Performans Yönetimi: Bir Yönetim Muhasebesi Aracı Olarak Performans Karnesi, İ.Ü. Sosyal Bilimler Enstitüsü, Doktora Tezi, 2005, p.234

3.4.7 Balanced Scorecard

Having understood that financial parameters are not the only measures to be used in performance measurement, non-financial parameters need to be included. However, it is obviously not that easy to measure non-financial parameters. Even it is not easy to determine what to include in performance measurement.

Looking into the Balanced Scorecard described by Kaplan and Norton, there are four perspectives to be considered:[170]

i. Financial -- one of the major goals of a company, namely profitability is linked through financial perspective. Financial measures are simply used to assess success in reaching financial objectives; e.g. operating income, return on capital or economic value added, sales growth, generation of cash flow, etc.

ii. Customer -- in this perspective, it is required that customer and market segments are identified for the company and measures for performance in those targeted areas are determined. Basic measures which feet in this perspective are customer satisfaction, customer retention, new customer acquisition, customer profitability, market share.

iii. Internal business process – although it is unique for each organization, a generic value chain model can be used to customize in accordance with organization's qualifications. In a generic value chain model, three business processes are defined; innovation, operations and post-sales services. In the innovation process, customer needs are identified and design of product or services to meet those needs are performed. In the operations process, products and services are produced and delivered to customers. This process was the main focus of traditional measurement accounting systems having main goals as cost reduction and operation excellence. With the new techniques introduced such as

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[170] Kaplan and Atkinson, Advanced Management Accounting, p.368-376; Kaplan and Norton, The Balanced Scorecard, p.47-146

total quality management and time-based competition practices, perspective in this process is also changed. Post-sales services being the last process became more important in the competitive environment. Companies are trying to differentiate their products and services with both quality and quantity of after sales services.

iv. Learning and growth – organizations will not be able to meet customer needs in the future if they do not improve their capabilities. Therefore, they need to enhance their capabilities in terms of people, systems and organizational procedures. Employee satisfaction, employee retention, employee training and employee skills can be used for measurement of people aspect. Information system capabilities can be measured by real-time availability of accurate and critical information to decision makers. Organizational procedures, on the other hand, can be measured through alignment of employee incentives with overall organizational success factors, rates of improvement in critical customer based and internal processes.

Companies applying BSC give similar names to those 4 categories. At the beginning of the period, usually one year, supervisor and the person subject to review agrees on the both financial and non-financial targets. At the end of the year both parties review the achievements within the year and assess the performance based on the achievements of the targets.

In fact BSC is a tool to transfer the company strategies from top to bottom. Looking into the way it is performed, it is observed that first the BSC for the company is prepared. Based on the scorecard of the company, BSC of each department is prepared including the targets to be able to reach overall goals of the company. Department heads not only prepare their departments BSC but also their personal scorecards having similar targets. Each person subject to BSC system prepare its own BSC having in mind the department's and company's goals, i.e. scorecards prepared. Of course those scorecards are discussed with supervisors and approved after necessary amendments, if any. Therefore, before it works as a tool to measure the performance at the end of a certain period, it works as a tool to transfer the top management's strategies and targets to other people working in the company at the beginning of the period.

Various surveys have been done to reflect the performance measurement systems being used. And the picture in 2001 regarding the usage of BSC was as follows:[171]

Worldwide	44%
US	46%
UK	57%
Germany and Austria	26%

However, those ratios only reflect the percentage of use, they not reflect the whether BSC was successfully applied and benefited from. Looking into surveys made in 2004, it is noted that 85% of the organizations have performance measurement initiatives underway.[172]

Survey conducted by Coskun with Turkish 500 largest manufacturing companies in 2005 reflected that 8% of the companies use BSC company wide, while 10% of the companies use BSC in certain departments.[173]

[171] Andy Neely, Mike Kennerley, Veronica Martinez, Does the Balanced Scorecard Work: An Empirical Investigation, Performance Measurement and Management – Public and Private, 2004, p.764, www.som.cranfield.ac.uk
[172] Neely and Kennerley, p.764
[173] Coskun, p.268

4. RESEARCH

4.1 Methodology

In order to draw the picture of management accounting in Turkey, it is preferred to make a research through sending questionnaire to head of accounting and finance in companies. Publicly traded companies are selected as sample. There are 313 companies whose shares are traded in İstanbul Stock Exchange as of December 31, 2005. From those 313 companies manufacturing, trade and service companies are identified which adds up to 224 companies. Financial institutions and investment companies are excluded from the sample as they would be a sample for a separate research.

Considering that there might be wrong interpretation of terminology used within the questionnaire, for further investigations, face to face interviews and case studies on sample companies should be performed.

4.2 Responses Received

Questionnaires were faxed at the end of January 2006. After a one month period, second requests are sent to non-responded companies, either through fax or through e-mail after a telephone call to responsible executives. In April total responses received reached 67 which represent 30% of the sample size.

4.3 Survey Results

For certain topics, questions were prepared in 3 separate categories for:

- Manufacturing companies
- Trading companies
- Service companies

However, only 4 responses were received from trading companies and 3 from service companies. 60 out of 67 responses were from manufacturing companies. Based on the responses received, it was not statistically meaningful to comment on trading and service companies. Therefore, the analysis of the results under such categories was not performed separately.

4.3.1 Costing Method

It is possible to classify costing methods from different perspectives. Within the survey, cost methods related to the types of business and related to control purpose and cost structure are questioned.

4.3.1.1 Cost Methods Related to the Pattern of Production Process

If it is classified according to system of production, costing system used can be job-order costing, process costing or a combination of both.

From 60 manufacturing companies responded, costing method according to system of production is summarized in Table 1.

Table 1
Costing System – Production Process

Costing System	Number of companies	Percentage in total responses
Process costing	45	75%
Job-order costing	4	7%
Combination of job order and process costing	4	7%
Non-response	7	11%

While percentage of companies using job-order costing is benchmarked with the survey results in USA and Japan, it is quite different. In Japan companies using job-order costing was noted as 23% in 1984 and 33% in 1989.[174] Similar surveys in USA reflected 28% in 1985 and 35% in 1987.[175] Turkish companies who preferred using job-order costing (7%) is much less than those. Of course same difference is

[174] Shields and others, p.64
[175] Shields and others, p.64

observed in process costing. In Japan 55% of companies reported that they use process costing in 1984. Such rate was increased to 62% in 1989. In USA, on the other hand, it was 35% in 1985 and 35% in 1987. In Turkey, 75% of the companies noted that they prefer process costing.

Having 75% process costing was not an expected result. Actually it was expected that combination of job order and process costing would have a higher usage rate. Those unexpected results may be due to the fact that terminology used in the questionnaire was not familiar to the participants. Especially job-order costing might have been understood as costing applicable to manufacturing of special products based on customer order.

4.3.1.2 Cost Methods Related to Controlling Purpose

Another way to classify costing system would be from the control effectiveness perspective. Companies may follow actual costing method; compute the cost of each product with actual spent raw material, direct labor and overhead costs. On the other hand, companies may follow standard costing method; compute the cost of each product at the pre-determined standard rates and at period end analyze the differences between standard and actual and investigate any material variances. Standard costing is actually used as a control tool. Furthermore, companies using standard costing can compute the cost of each product manufactured and/or sold within a very short period of time.

From 60 manufacturing companies responded costing method from the control effectiveness perspective is summarized in Table 2.

Table 2
Costing System – Control Perspective

Costing System	Number of companies	Percentage in total responses
Actual costing	50	83%
Standard costing	9	15%
Non-response	1	2%

Almost 83% of the manufacturing companies noted that, they use actual costing. Researches made in Poland and Greece gave different results. In Poland, only 8% of the companies use standard costing.[176] In Greece, on the other hand, percentage of companies using standard costing was 36% in 1989.[177]

Turkish economy has been experiencing high inflation for many years. Companies that were using standard costing, faced huge variations between standard cost and actual cost, which they need to explain while making variance analysis. Some of them need to revise their standard costs every quarter due to price changes as a result of high inflation and significant devaluation. Hence, using standard costing caused additional time spend for variance analysis. Therefore, using standard costing was difficult and Turkish companies did not get used to it.

4.3.2 Analysis of Cost Components

4.3.2.1 Cost Structure

While trying to picture the management accounting application in Turkey, it is also questioned the percentage of product costs in total. Findings are summarized in Table 3.

Table 3
Product Cost Components

Cost components	Percentage
Direct material	61%
Direct labor	9%
Depreciation	6%
Overhead costs other than depreciation	24%

While the results are compared with those reported in 1997 by Öker[178], it is noted that there is only 2% increase in direct labor; however, 10% decrease is observed in direct material and 7 % increase in overhead costs including depreciation.

[176] Szychta, p.408
[177] Venieris, p.141
[178] Öker, p.24

Increasing trend in percentage of overhead costs in total manufacturing cost is in line with worldwide trends. As stated in literature survey section in more detail, percentage of overhead costs were found to be around 20% in European countries, 24% in Japan and 32% in USA in late 1990s[179]. Increasing trend in overhead costs is in line with change in production techniques. During past couple of decades involvement of technology in production process increased every day which resulted in using machine power instead of man power. Therefore, not only depreciation charge increased, but also repair and maintenance costs, indirect labor cost including engineering costs increased as well.

Considering that almost one third of total manufacturing cost is composed of indirect expenditures which required detail techniques to allocate those on the products, importance of new allocation techniques can be understood easily.

Looking into the costing method used by Turkish companies, survey results indicate that companies use average costing either monthly weighted average or moving average. Detail breakdown is given in Table 4.

Table 4
Costing Methods

Costing Methods	**Number of companies**	**Percentage in total responses**
Moving weighted average	28	47%
Monthly weighted average	24	40%
FIFO	5	8%
Specific identification	1	2%
Non-response	2	3%

Under high inflation, companies prefer to use LIFO as it results in higher cost of sales and accordingly lower tax charge. However, as using LIFO was subject to certain limitations, Turkish companies preferred to use average costing since FIFO was the least advantageous one under an inflationary environment. Furthermore, average costing methods were easier to use especially for medium and small sized companies

[179] Shields and others, p.63

who did not have a well established accounting system. Therefore, having 87% application rate for average costing is in line with expectations.

Considering that cost information is used in decision making, surveys included certain questions to identify which costs are included in decision making process. In 2001 Öker noted that 30% of the surveyed companies allocate research and development expenses to products, 33% allocate administrative expenses and 23% allocate financing expenses[180].

While companies are asked what expenses they allocate to product costs for management reporting purposes, it is noted that general administrative expenses and selling marketing expenses are considered almost by half of the companies. 28% of the companies noted that they consider financing expenses. However, approximately 13% declared that they do not consider those period costs in their product costing. Detail analysis is reflected in the Table 5.

Considering that research and development costs are not very material in Turkey, it was surprising to see that 30% of the companies declared allocation of research and development costs in 2001. Such rate decreased to 2% within the current survey, representing 1 company only.

Table 5
Consideration of Period Expenses

Non-product Cost and Expenses	**Number of companies**	**Percentage in total responses**
General and administrative expenses	30	50%
Selling and marketing expenses	28	47%
Financing expenses	17	28%
Research and development expenses	1	2%
Special costs for projects	1	2%
None of the above	8	13%
Non-response	14	23%

[180] Öker, p.29

Survey results summarized in Table 5 show that approximately half of Turkish companies consider period costs like general and administrative, selling and marketing expenses in decision making. In 2001, Drury and Lamminmaki concluded that in UK companies prefer to use variable costs for decision making. They also noted that in New Zealand total manufacturing cost was the extensively used data for decision making. They thought fixed costs were irrelevant for short term decision making[181].

Considering fixed costs in sales price determination may cause companies not try to increase sales volume to cover the fixed costs but to increase sales price to cover fixed costs.

Approximately half of the Turkish companies noted that they consider general and administrative, selling and marketing expenses in decision making. However, for only one third of the companies consider financial expenses. This difference may be due to the fact that capitalization of financial expenses on products is not permitted in financial reporting except for certain rare cases. Furthermore, in net realizable value analysis, "cost to sell" should be considered; however, for practicality purposes companies usually prefer to take percentages of general and administrative, selling and marketing expenses over cost of sales and applies to inventory on hand to reflect the effect of cost to sell. Therefore, they got used to consider general and administrative, selling and marketing expenses in their analysis more than financial expenses.

4.3.2.2 Allocation of Overhead Costs

Considering that overhead costs including depreciation reached 30% of total manufacturing costs, allocation of those indirect expenses became more important than it was 20 years ago. Survey results indicate that most of the companies continue using traditional methods. Detail analysis is given in Table 6 below:

[181] Lamminmaki and Drury, p.336

Table 6
Allocation Method of Overhead Costs

Allocation Method	Number of companies	Percentage in total responses
Departmental overhead rate	25	42%
Blanket overhead rate	15	25%
Activity based overhead rate	15	25%
Other	3	5%
Non-response	2	3%

In 2001, Öker based on her survey concluded that 79% of the companies use departmental overhead rate and 21% use blanket overhead rate[182]. It is interesting to note that although approximately 25% of the companies noted that they use activity based costing, use of blanket overhead rate is increased to 25%.

Survey results are not dramatically different from the applications in UK. In 1993 Drury noted that use of blanket overhead rate was 26% in UK which was reflected as 27% in 2001. The results obtained from New Zealand Survey were different. 46% of the companies in New Zealand charge overhead costs with a single plant-wide rate, 45% uae departmental overhead rates and remaining 9% use separate overhead rates. [183]

In Scandinavian countries, blanket overhead rate is almost not used. On the contrary, 51% of the companies in Ireland use blanket overhead rate.[184]

It is observed that performance measurement is not only performed at the entity level, but also at the departmental level. As departments managers required to analyze their department results and comment on budget versus actual analysis, they started to question cost allocation basis as well. While preparing their plans how to decrease cost, they need to know sources of the cost and since they are more close to the production process they can easily challenge the allocation bases which do not reflect the actual cost of their products. Therefore, challenging departmental

[182] Öker, p.26
[183] Lamminmaki and Drury, p.340
[184] Öker, p.26

performance might be one of the reasons for high use of departmental overhead rate and increasing use of ABC.

Second step in allocation of overhead costs is the allocation base used. Past surveys indicated that direct labor hours/cost is the number one base used in allocation. The survey made in 2001 by Öker showed that 62% of the companies contributed to the survey use direct labor hours/cost. Second most common base is machine hours with 50% usage[185]. If direct material amount and quantity are taken together, usage percentage reaches 50% as well.

Based on the survey results summarized in Table 7 below, there is no major change in the percentage of companies using direct labor hours/costs as allocation basis. With only 4% change still direct labor is the number one allocation base. Only 8% decrease is observed in machine hours. However, usage of direct material quantity and cost decreased from 50% to 30%. Another 30% noted that they also some other allocation bases than the listed most common ones. Those are mainly kwh, square meter, working hours, number of employees, production hours, production quantity, etc.

Table 7
Allocation Base for Overhead Costs

Allocation Base	Number of companies	Percentage in total responses
Direct labor hours	26	43%
Direct labor cost	9	15%
Machine hours	25	42%
Direct material cost	10	17%
Direct material quantity	8	13%
Other	18	30%
Non-response	5	8%

The results found in Turkey are not different than the applications in other countries. Survey results indicate that in Australia (1997), Japan (1997)[186], New

[185] Öker, p.26
[186] Wijewardena and Zoysa, p.59

Zealand (2001) and UK (2001)[187] direct labor hours and cost are the most common allocation bases used for overhead costs.

The most important reason for using labor hours and cost at most is its cost. Although it is accepted my many managers that using labor hours and cost might not give the accurate result, while they make cost versus benefit analysis they conclude that using more detailed allocation bases and having more accurate results will not significantly affect their decisions much but will cost them more then its benefit. Therefore, they prefer to use the simplest base for allocating costs to products.

4.3.3 Role of Management Accounting

Companies are required to prepare and submit different reports to external users. First of all they are obliged to submit financial statements in the required format to regulatory bodies like tax authorities, regulatory bodies in financial markets, stock exchange, etc. Furthermore, potential investors and/or creditors would also like to see the financial statements of the company. There are of course internal users of information as management. Although there are pre-determined standard rules for information to be provided to external users (tax regulations, CMB principles, IFRS, etc.), for internal users it is totally depended on requirements of the management. Therefore different set of financial statements can be prepared with different accounting principles. However, usually companies do not prefer to prepare a different set of financial statements in order not to make confusion, and not to increase cost of financial reporting.

Survey results support this general idea. 34 companies out of 56 responses, noted that they use CMB financial statements for management purposes as well. While 22 companies noted certain differences between CMB financial statements and management reporting, 7 out of this 22 declared that management reporting include financial statements prepared for tax purposes. Differences noted are mainly the differences between tax regulations and CMB principles, i.e. different useful life for property, plant and equipment, accounting for employee termination benefits, discount of receivables and payables. This shows that companies either use CMB financial

[187] Lamminmaki and Drury, p.341

statements or financial statements prepared in accordance with tax regulations for management reporting purposes as well. There are 2 companies stating that one of them uses IFRS financial statements and the other one uses US GAAP financial statements for management reporting.

When it is asked what financial statements are included in management reports, 19 companies listed statements other than balance sheet, income statement, statement of changes in shareholders' equity and cash flows statement. Those are:

- Cost schedules
- Cost analyses based on customer and product
- Product profitability
- Sales report
- Liquidity report
- Statement of changes in working capital
- Import and export report
- Operational expenses
- Break-even analyses
- EBIT – EBITDA
- Budget comparison
- Efficiency and shrinkage ratios
- Investment report (property, plant and equipment)
- Production and sales reports
- EVA

Increasing demands from management accounting required separate management accounting departments to be established. From 67 companies while 19 (28%) of them replied that cost and management accounting are followed within the accounting department, 44 (66%) have either separate cost accounting or management accounting departments or both. 10 (15%) companies have one separate department engaged in both cost accounting and management accounting. 20 (30%) companies on the other hand have separate cost accounting and management accounting departments. Number of personnel working in each department, of course, s depended on size of the company and management reporting requirements. Those ratios are optimistic in terms of progress in management accounting in Turkey.

Within the survey, participants are required to enumerate the listed purposes of management accounting, 1 as most important and 5 as least important. As can be followed from Table 8, 58 companies identified “Generating relevant and accurate cost information for decision making by senior management” as the most important purpose of management accounting. Although time constraints are always discussed by managers, “Creating a faster and more accurate reporting process“ was considered to be the least important purpose by 28 companies.

Table 8
Purpose of Management Accounting

Purpose of Management Accounting	Ratings					
	1	2	3	4	5	Weighted average rating
	Number of companies					
Generating relevant and accurate cost data for decision making by senior management	58	5	3	0	0	1.17
Cost reduction and driving efficiency	7	20	23	9	4	2.73
Reducing risk for the corporation	0	19	15	16	11	3.31
Setting standards for efficiencies and performance metrics for the enterprise	0	10	13	22	18	3.76
Creating a faster and more accurate reporting process	1	10	9	14	28	3.94

Based on the weighted average rating, order from most important to least important resulted as follows:

1. Generating relevant and accurate cost data for decision making by senior management
2. Cost reduction and driving efficiency
3. Reducing risk for the corporation

4. Setting standards for efficiencies and performance metrics for the enterprise

5. Creating a faster and more accurate reporting process

"Generating relevant and accurate cost information for decision making by senior management" was rated as the most important purpose by 58 companies.

Another question was regarding the reason for preparing more detail and accurate cost data. Companies are required to enumerate the needs listed from 1 as most important need and 7 as least important. Findings are summarized in Table 9. 38 companies rated "Strategic decision making" as the most important reason for preparing more detail and accurate cost data. On the other hand, 22 companies rated "Increase in research and development costs" as the least important reason. Considering that research and development expenses incurred in Turkey are very limited, locating increase in such expenses at the end of the list is not surprising.

Based on the weighted average rating, order from most important reason to less important for preparing more detail and accurate cost data resulted as follows:

1. Strategic decision making

2. Increase in product variety

3. Allocation of indirect overhead costs

4. Increase in customer profile

5. Increase in cost of technology

6. Increase in shared services

7. Increase in research and development costs

Table 9
Reason for Preparing More Detail and Accurate Cost Data

Reason	1	2	3	4	5	6	7	Weighted average rating
	Ratings – Number of companies							
Strategic decision making	38	4	7	5	2	0	1	1.82
Increase in product variety	13	22	7	9	2	3	0	2.54
Allocation of indirect overhead costs	1	12	14	9	5	9	2	3.77
Increase in customer profile	2	8	11	5	12	6	7	4.24
Increase in cost of technology	2	5	7	10	11	10	5	4.46
Increase in shared services	1	4	10	9	13	9	7	4.58
Increase in research and development costs	0	1	1	6	3	10	22	6.00

Looking into the history of management accounting, it was noted that initially companies did not use cost figures for financial statement preparation. Instead market price is reflected as inventory value in the balance sheet. However, after development of financial markets and increased importance of certain accounting standards requiring cost principle in financial statements, cost information became more important for external financial reporting than its relevance for internal management reporting. Current surveys, however, indicate that cost information is both used for external and internal reporting.

As can be seen from the Table 10, cost data is used for "profitability analysis" by 85% of the companies. Although tax regulations are still very important in Turkish accounting practice, only 39% of the participants declared that cost data is used for tax computations. Survey results show that cost data is also used for sales price determination almost as much as profitability analysis. In nineteenth or early twentieth centuries, it is known that cost data is not used for inventory valuation purposes. Inventories are valued with market price or at replacement cost. Cost data on the other hand was used for management purposes. Survey made in twenty-first century, however, show that 70% of the companies use cost data for inventory valuation.

Table 10
Use of Cost Data

Cost information used for	Number of companies	Percentage in total responses
Profitability analysis	57	85%
To determine sales price	56	83%
Inventory valuation	47	70%
Performance measurement	39	58%
For investment decisions	29	43%
To compute tax base	26	39%
All of the above	14	21%
Non-response	1	1%

4.3.4 Management Control and Performance Measurement

Another question related with use of cost data was the purpose. Participants were asked to state the purpose of preparing certain cost data. 55 companies noted that they prepare cost data to determine sales price. This is very consistent with 56 companies stating that they use cost data for sales price determination. Regarding performance measurement responses are consistent as well. 39 companies declared that one of the purposes to prepare cost data is performance measurement and the responses also reflect that 39 companies actually use such data in performance measurement. Although not very different, it is still interesting to note that one of the purposes of preparing cost data for 52 companies is cost control, 57 companies use this information for profitability analysis.

Table 11
Purpose of Cost Data

Cost data is prepared	Number of companies	Percentage in total responses
To determine sales price	55	82%
To control costs	52	78%
To measure performance	39	58%
To determine product / service variety	23	34%
Not used for other purposes	4	6%
Non-response	4	6%

As discussed in previous sections, there are different accounting tools used for management purposes. Some of them are traditional management accounting tools still being used, and some of them are introduced more recently and encouraged by both professionals and academicians. Survey results indicate that in Turkey, companies still prefer to use traditional tools, mainly budget and then certain ratio analysis. Although modern management accounting tools are also used, percentage of usage in total is significantly less than the traditional tools. This is in fact not very different from practices in other countries. Surveys made in UK and New Zealand also confirmed that budget is being used as an important tool for management control and performance measurement.

For the last 10 years, it is accepted that budget is almost the most important management tool to assess both the performance of the company and of the managers / employees in Turkey. Survey results support this conclusion with 89% usage rate. It also not surprising to see that sales analysis is another significant tool used by 84% of companies participated. Considering that even in financial reporting, managers are usually concentrated on gross profit and net profit, it is also expected to have significant usage rate for net profit and gross profit figures as management control tools.

Table 12
Management Accounting Tools Used For Control

Management Accounting Tools Used	Number of companies	Percentage in total responses
Budget vs. actual comparison	60	89%
Sales analysis	56	84%
Net profit	46	69%
Gross profit	42	63%
Market share	35	52%
Benchmarking	27	40%
Return on investment	19	28%
Stock price	17	25%
EVA	14	21%
Non-response	1	1%

Sales analysis was the second most important control / performance measurement tool with 84% application rate. This is also not very different from other countries. In Japan (1991) 69% of the companies noted that they use sales as performance criteria[188].

İstanbul stock exchange is still at the grow stage. Speculative transactions can easily affect the stock prices. Or any political issue may have a significant effect. Therefore, traders usually concentrate on technical market analysis instead of financial information regarding the companies whose shares are traded. Having this reality in mind, it is normal to observe that only 25% of the companies use stock price as a tool. It is accepted that managers can not by themselves control the stock price and accordingly are not assessed with changes in stock price of the company.

Third and fourth positions are net profit and gross profit considered by companies in management control and performance measurement in Turkey with 69% and 63% application rates, respectively. In Japan, after sales performance second most important criteria was determined as "profit minus corporate costs" with 44% application rate. In USA, on the other hand same survey made in 1991 reflected that 75% of the companies use return on investment as an important performance criteria[189].

Survey results made in South Australia also confirm high use of profitability analysis with 62%. In UK, similar surveys made in 2000, confirmed that profit related figures are often used. 55% of the participants in UK noted that they use "profit before charging interest on capital" as a criteria; while 14% noted that use "profit after charging interest on capital"[190].

4.3.4.1 Performance Measurement

Besides the financial parameters used in management accounting, certain non-financial parameters are also very important and their importance is acknowledged in recent years and included in performance measurement tools. Those are customer satisfaction, quality, spoilage ratios, per person sales and production, etc.

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[188] Shields and others, p.68
[189] Shields and others, p.68
[190] El-shishini and Drury, p.11-12

In fact, if it is discussed with small owner employed stores, productions units, it is noted that they are aware of those non-financial parameters and they work on them. Customer relations and customer satisfaction is very important for the grocery at the corner. Customers may easily prefer to shop from another grocery if the owners and other employees, if any, do not behave nice to them. And the grocer is very well aware of this reality. Therefore, he tries to establish strong relationship with his customers, tries to exceed their expectations so that they will never leave him. If it is asked to the small patisserie at the corner, he probably will acknowledge that the quality of his products is very important. As long as he keeps and improves the quality he will be able to sell. Otherwise he may loose his customers. Those people are working by themselves and they directly contact with customers. Therefore, they can easily acknowledge the market needs and criteria.

However, in large companies, top management sometimes never meet with the customer, never try the goods sold. Therefore, customer satisfaction and quality are the two parameters for which measurement is difficult compared to others. It takes time to see the monetary affect of customer satisfaction and quality for them. That is why it took time for non-financial parameters to be included in performance measurement tools.

Table 13
Non-financial Parameters

Management Accounting Tools Used	Number of companies	Percentage in total responses
Customer satisfaction	51	76%
Quality	48	71%
Number of employees per production / sales	36	54%
Shrinkage ratios	32	48%
Other	6	9%
Non-response	3	4%

In this perspective, it is encouraging to see that approximately 76% of the participated companies included customer satisfaction in non-financial parameters. Quality has also an important place with 71% application rate.

Looking into non-financial parameters used in other countries, it is noted that some companies try to apply balanced scorecard by combining financial and non-financial parameters in performance measurement. Customer satisfaction is considered as important non-financial criteria especially for service companies. Surveys made in South Australia reflected that 55% of the companies use customer satisfaction as criteria in their performance measurement process.

4.3.4.2 Budgeting

During 1990s budget became the most important planning and control tool. Starting from international companies, use of budget enlarged to other local big size companies as well. Managers spent significant time in preparing budgets. And since it was the most important control tool used by top management, employees also worked hard to reach budgeted figures. However, within time it is understood that controlling the operations with number based budgets only may cause some unacceptable behaviors. Therefore other control techniques started to be used including certain non-financial parameters. Despite these changes, it is observed that budget is still an important planning and control tool in management accounting. Survey results also support this observation.

Participants asked to rate importance of budget in performance evaluation, stating 1 as very important and 7 as not important. 34 companies stated that budget is very important by rating as “1”. There are only 6 companies who rated budget with a rate greater than 4, i.e. stating that either budget is not important or less important.

Table 14
Importance of Budget

	Ratings							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Non-response**
Number of companies	34	10	6	4	1	3	2	7

Surveys made in USA, UK, New Zealand, Japan and South Australia showed that budget is still an important management accounting tool used, despite modern management accounting techniques introduced.

Table 15
Budget Content

Budget Content	Number of companies	Percentage in total responses
Operational	60	89%
Capital	34	51%
Cash flow	2	3%
Other	1	1%
Non-response	4	6%

As expected, 60 companies stated that they prepare and use operational budgets. Use of operational budgets has similar tendencies in other countries like Japan and Australia. However, use of capital budgets is significantly higher in those countries[191]. In Turkey, budget is used as an important and sometimes the only control tool by top management. Therefore, importance rating given by participants is not contradictory with general tendency and expectations.

While companies in Turkey get used to budget process, usually fixed budgets were being used. However, within time it is observed that flexible budgets also take some part especially helpful for fluctuating economic trends; e.g. inflation rate, foreign exchange rates, etc. Survey results summarized in Table 16 show that almost two thirds of the companies prefer flexible budgets. One third continues to prepare fixed budgets; where as there are a few who both apply fixed and flexible budgeting techniques.

Flexible budgets are used by 42% of the companies in UK and 27% in New Zealand. Furthermore, surveys made reflected that there is an increasing trend in use flexible budgets. Turkish companies in that perspective reached a higher usage rate.

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[191] Wijewardena and Zoysa, p.58

Table 16
Budgeting Techniques

Budgeting Techniques Used	Number of companies	Percentage in total responses
Flexible	39	58%
Fixed	19	28%
Both flexible and fixed	3	5%
Rolling	1	1%
Other	1	1%
Non-response	4	6%

Again due to fluctuating economic conditions, companies get used to update the budgets periodically. Summary of responses received for budget revisions is given in Table 17 below. 3 companies even noted that they revise their budgets monthly. Most common periods for revision are every 3-months and every 6-months. 64% of total companies responded that they either revise their budgets quarterly or semi-annually. 25 companies (37%) prefer quarterly revision and 18 companies (27%) prefer semi-annual revision. While 5 companies noted that they do not revise their budgets, 8 companies noted that they revise their budgets, when there are significant changes in assumptions and market conditions; e.g. economic crises, significant change in expected inflation rate and/or foreign exchange rates, crises in the sector, etc.

Table 17
Budget Revisions

Revision Period	Number of companies	Percentage in total responses
Monthly	3	4%
Quarterly	25	37%
Semi-annually	18	27%
When needed	8	12%
Not revised	5	7%
Other	4	6%
Non-response	4	6%

In US, surveys show that 25% of the companies revise their budgets quarterly and 21% as needed. On the other hand, 26% noted that they do not revise. In Japan revision rate is higher. 59% of the companies review their budgets semi-annually[192]. Higher revision rates in Turkey may be due to fluctuation in economic trends.

4.3.5 Strategic Management Accounting Tools

Although traditional management accounting tools are still widely used, there is also a significant portion that prefers to use modern management accounting techniques besides the traditional ones.

Having promoted by many consulting firms and academicians, total quality management seems to be applied by almost two third of participating companies. As summarized in Table 18, Kaizen costing is the second most common strategic management accounting tool used by companies. It is used by 38 companies reflecting 57% application rate. Target costing which is a similar concept to kaizen costing is used by 25 companies constituting 37% of participated companies. Strategic pricing, on the other hand, is used by 40% of the companies (27 companies).

Table 18
Strategic Management Accounting Tools

Management Accounting Tools Used	Number of companies	Percentage in total responses
Total quality management	42	63%
Kaizen costing	38	57%
Strategic pricing	27	40%
Target costing	25	37%
Competitor cost analysis	19	28%
Economic value added	18	27%
Balanced Scorecard	15	22%
Just in time management	10	15%
Other	2	3%
Non-response	4	6%

In Turkey, it is difficult and sometimes not possible to find financial information regarding competitors and sector averages except for the publicly traded companies.

[192] Shields and others, p.65

This survey is made within the publicly traded companies in Turkey. Therefore it is interesting to note that 28% of the companies analyze competitors' cost information.

Application rate for more recent strategic management accounting tools is low as expected and as observed in other countries as well. Only 27% of the companies use EVA and 22% use BSC.

It is also worth to note that there are only 2 companies who use ABC, EVA, and BSC at the same time. They are both manufacturing companies and belong to the same Turkish holding company.

Regarding Just in time management (JIT), it is also not surprising to observe a lower rate of use. Only 10 companies constituting 15% of total responses noted that they use JIT. In order to properly apply JIT, not only the company itself should have well defined production process so do the suppliers. Accordingly, there are a few examples in Turkey that can apply JIT properly. Those who apply usually have their suppliers surrounding their factory building and established an Enterprise Resource Planning system (ERP) which is shared with their suppliers to some extend. So the suppliers can follow the production plan simultaneously and make their own production plan to fulfill the requirements of their main customer.

4.3.5.1 ABC Adoption

As summarized in Table 19, ABC adoption rate within Turkish companies is 23% which is not very different from worldwide trends. It is also not surprising to see that all 15 companies who use ABC are manufacturing companies. ABC advocators suggest using ABC especially for the companies whose overhead costs are high.

ABC adoption rate was found to be 21% and 18% in 1994 and 1999, respectively, in UK. There was also a decrease in number of companies who consider using ABC from 1994 to 1999[193]. In New Zealand application rate was even lower with 5% in 2001[194]. In contrast to those countries application rate in Saudi Arabia was higher with 33%. In Ireland survey made in 1997 reflected 12% application rate. Considering that in 2001 survey made by Öker reflected zero application of ABC, within

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193 Innes and others, p.351-357
194 Lamminmaki and Drury, p.343.

time in there is a significant increase. However, the reason for not using ABC seems to be not changed very much. In 2001, 58% noted that current system they are using is sufficient for their management reporting purposes and in 2006 those constitute 61%.

Table 19
ABC Adoption

Responses	Number of companies	Percentage in total responses
Companies who use ABC	15	23%
Companies who do not use ABC	29	43%
Companies who are planning to use ABC	2	3%
Companies who partially use ABC	9	13%
Non-response	12	18%

However, survey results do not support high overhead expenses being a reason for adopting ABC. While overhead costs constitute 24% of total costs for the 60 manufacturing companies responded, such rate is 17% for those who use ABC.

Table 20
Size Effect on ABC Adoption

Sizes	Total number of companies in at this size	Number of ABC adopters at this size	Percentage of adoption in each group
Large	11	1	9%
Medium	30	5	17%
Small	26	9	35%

In literature, it is noted that ABC is more suitable for large companies as they have enough resources to cover cost of ABC. Companies participated in the survey are categorized according to their sales volume and total assets into three groups as large, medium, small size companies. Based on this classification result of the survey on Turkish companies (Table 20) did not support this theory. While only 9% of large companies apply ABC, this ratio is 17% for medium size and 35% for small size companies.

Table 21
Cost Allocation for ABC Adopters

Cost Components	Average of manufacturing companies	Average of ABC adopters
Direct material	61%	63%
Direct labor	9%	14%
Depreciation	6%	6%
Overhead costs other than depreciation	24%	17%

Companies that have complex production process with different end-products and high indirect costs are suggested to use ABC in order to compute more accurate cost data for decision making. However, 23% of total manufacturing costs is overhead costs in companies using ABC, while this rate is 30% for all manufacturing companies participated in the survey (Table 21). Accordingly, survey results show that having high overhead costs does not have a significant affect in ABC adoption for Turkish companies.

While participants asked to state where they use cost information other than preparation of financial statements, it is observed that companies who use ABC use cost data in sales price determination, cost control, performance evaluation and determination of product/service variety more than the others. Detail comparison is given in Table 22 below.

Table 22
Purpose of Cost Data for ABC Adopters

Cost data is prepared	Average of all responses	Average of ABC Adopters
To determine sales price	82%	100%
To control costs	78%	93%
To measure performance	58%	80%
To determine product / service variety	34%	53%
Not used for other purposes	6%	-
Non-response	6%	-

Approximately 77% of the participants noted that they do not use ABC. When the reason is asked, 49% stated that current system they are using is sufficient to provide accurate results. 17% think that ABC is not suitable for their company, while 3% do not know ABC very well. 10% noted that additional costs to be incurred for implementing ABC will be greater than its benefits. Those who think ABC is not suitable for their company were decreased by 9%, from 26% to 17%.

Table 23
Reason for Not Using ABC

Reasons	Number of companies	Percentage in total responses
Current system provides accurate results	14	49%
ABC is not suitable to this company	5	17%
ABC's additional cost will be greater than its benefit	3	10%
ABC is not very well known	1	3%
Non-response	6	21%

Common idea is that strategic management accounting techniques are introduced to local companies in Turkey through multinationals. However, survey results show that all 15 companies that apply ABC are local companies with no foreign shareholders. Looking into industry break down of such 15 companies, there are 4 textile companies and remaining 14 are operating in different industries, like, automotive, food and beverage, pharmaceutical, heating systems, packaging materials, press, etc.

4.3.5.2 Economic Value Added

Out of the 67 companies responded 26 of them noted that they use EVA. From these 26 companies, 21 are local companies and 5 have foreign shareholders. However, considering total number of local and international companies participated in the survey, EVA application is approximately 39% for both local and international companies. While those 26 companies are asked to rate EVA in terms of performance measurement, stating 1 as very important and 7 as not important, 19 companies rated either as 1 or 2 which means EVA is considered very important although not have the top priority. This result is in line with findings of Coskun in 2005 within 500 largest manufacturing companies in Turkey. Out of 26 companies 20 of them (approximately 77%) use EVA for the whole company, while 6 of them use for certain departments.

Table 24
Importance of EVA

	Ratings							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Non-response**
Number of companies	10	9	3	1	1	1	0	1

2 companies out of 26 are trading companies and the rest is manufacturing companies. 4 companies who use EVA are operating in automotive sector and 2 in food and beverage, 2 in heating systems, 2 in textile and remaining in various industries.

Survey results classified in terms of sizes of the companies for EVA usage is in line with general trends. Approximately 89% of the large 11 companies stated that they use EVA. This ratio decreased to 33% for medium size companies and 27% for small size companies as illustrated in Table 25.

Table 25
Size Effect on EVA Usage

Sizes	**Total number of companies in at this size**	**Number of companies using EVA at this size**	**Percentage of usage in each group**
Large	11	9	82%
Medium	30	10	33%
Small	26	7	27%

4.3.5.3 Balanced Scorecard

Although budget is accepted as the most common tool used for performance measurement, use of BSC is increasing. Within the survey, 18 companies (approximately 27%) noted that they use BSC. From those 18 companies 13 of them use BSC at company wide, whereas 5 of them only use for certain departments.

Survey results of Coskun in 2005 were not very different from those results. Company wide BSC usage rate was found to be as 8% within 500 largest manufacturing companies in Turkey. Same survey showed that 10% of those companies used BSC in certain departments only.[195] While it is asked "how effective is BSC in performance measurement", stating 1 as very effective and 7 as not effective, responses accumulated between 2 to 4. Although it is on the effective side, the results show that companies need to work on that tool in order to increase its effectiveness in performance measurement.

From 18 companies who apply BSC, only 3 of them have foreign shareholders. Considering the shareholding structure of companies participated to the survey, BSC application rate is 28% for local companies and 23% for international companies. Also only 2 of them are trading companies and the rest is manufacturing. Looking into industrial breakdown, it is noted that 3 of them operate in automotive industry, 2 in textile, 2 in food and beverage, and remaining in different industries.

Table 26
Effectiveness of BSC

	Ratings							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Non-response**
Number of companies	1	6	3	3	1	0	0	4

Considering the worldwide application rate of 44% and picture in other developed countries like, USA with 46% and UK with 57%[196], use of BSC in Turkey is limited. Having in mind that it was introduced to Turkish companies during approximately last 4 years, use of BSC will probably increase within time.

Analyzing the size of the companies adopting BSC, it is noted that there is a relationship between adoption rate and the size. Adoption rate is higher for larger companies. Approximately 64% of large size companies adopt BSC whereas this ratio decreases to 23% for medium size companies and to 15% for small size companies.

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195 Coskun, p.268
196 Neely and others, p.764

Table 27
Size Effect on BSC Adoption

Sizes	**Total number of companies in at this size**	**Number of BSC adopters at this size**	**Percentage of adoption in each group**
Large	11	7	64%
Medium	30	7	23%
Small	26	4	15%

4.3.6 Managements' Own Assessment

Finally, managers are asked to rate their own management accounting system and contribution of ERP system, if any. Results are summarized below.

4.3.6.1 ERP Usage

Technological developments help making detail computations and more accurate analysis. They are not only used by accounting department to prepare the accounting records and financial statements but also used by production department to plan and follow production, by purchasing department to give necessary orders based on the production plan of production department or by other departments for various reasons. It is of course preferred to have an integrated one single system so that departments will be able to talk to each other continuously without waiting for time consuming hard copy communication tools or periodical electronic data transfer.

Turkish managers also give top priority to ERP systems in management reporting. This is proofed with the ratings given by companies. Participants are asked to rate ERP system in terms of contribution to management accounting stating 1 as the most important, 7 as the least important. The results indicate that companies those using an ERP system, believe that such systems contribute to their management accounting system very much. From 28 companies stated using ERP system, only one did not rate its contribution and the other one noted that they have been using the system for about one year, and they have not yet noted any significant benefit from it.

13 companies, on the other hand, noted that contribution of ERP system is very important in management accounting and rates as “1”.

Table 28
Contribution of ERP

	Ratings								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Cannot assess**	**Non-response**
Number of companies	13	7	4	1	0	1	0	1	1

From the 28 companies using ERP, SAP seems to be the most popular one within Turkish companies as 11 out of 28. Four companies stated that they use in-house written ERP systems. Others are composed of various ERP programs developed by professional companies.

Research performed in 1998 within the 500 largest manufacturing companies in Turkey, reflected that 46% of the companies use ERP system and furthermore 27% noted that they have decided to use.[197] Current survey results show that there is not a material change in ERP usage rate.

4.3.6.2 Effectiveness of the Management Accounting System Used

There are 36 companies who rated their system as very sufficient for their purpose by rating either 1 or 2. Ratings in detail are given in Table 29.

Table 29
Effectiveness of Management Accounting Systems Used

	Ratings							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**Non-response**
Number of companies	18	18	7	8	3	3	1	9

[197] Dursun Arıkboğa and İdil Kaya, Ülkemizde Kurumsal Kaynak Planlaması – ERP Kullanımı ve Muhasebe Eğitiminden Beklentiler, XIX. Türkiye Muhasebe Eğitimi Sempozyumu, Antalya 2000, p.125-151

Participants were also required to list the actions to be taken to improve the system they use. Most common action plan was to improve the software used and integrate the system throughout the company. 22 companies commented on the areas of improvement and out of these 22, 17 companies noted that they need to improve the IT system to fulfill the requirements of managers and improve the integration between departments. One company mentioned that they need to train the users of management reports and another one noted that they need to follow modern management accounting tools and implement relevant ones.

5. CONCLUSION

5.1 Development Needs for Management Accounting Practices in Turkey

During last decade, management accounting in Turkey experienced significant developments. Starting from budgets in 1990s, companies have started to use strategic management accounting tools like ABC, EVA, BSC, etc. However, there is still much to do. As also reflected in survey results there are limited number of Turkish companies using strategic management accounting tools. On the other hand, real life experiences show that companies do not implement those systems as they should. Accordingly, they do not get the real benefit.

Budget is the most common management accounting tool being used. Approximately every 9 companies out of 10 prepare master budget. Considering that at the beginning of 1990s such ratio was very low, it is a good progress. It is also good that most of the companies use flexible budget which is preferred especially for cost analysis. Otherwise, for each cost item being analyzed as budget versus actual, an adjustment is required based on realization in sales volume. Flexible budget, however, makes those adjustments automatically for given level of sales volume, which makes analysis easier.

Survey results showed that approximately 9 companies out of 10 use budgets as a management accounting tool. This high rate of budget usage in Turkey is actually in line with worldwide trends. Furthermore, budget is considered as a very important tool for management accounting. Real life examples, however, indicate that too much emphasis is put on budget realization. This fact may cause some fraudulent financial reporting and/or management fraud. Accordingly, although budget realization would be a significant part of performance measurement, a balance should be set both within the financial parameters and between financial and non-financial parameters. Looking at both profitability and average days of collection in addition to sales volume would balance the significance of achievement of sales budget.

Besides the overemphasis on budget achievement, also considering the other criticisms regarding budget process, beyond budgeting approach should also be evaluated. Using rolling budgets instead of focusing on fixed pre-determined numbers, would decrease the tendency of window dressing / cooking the books and furthermore would increase customer focus approaches. Accordingly, management of the company will demonstrate best performance.

Taking into consideration customer satisfaction, market image, employee satisfaction in performance measurement would balance financial and non-financial parameters. This balancing approach will take the management to Balanced Scorecard (BSC) approach. While approximately 27% of the companies adopt balanced scorecard, effectiveness of the system rated as 2.79, where 1 was very effective and 7 was not effective. This shows that companies who started to use BSC should improve their application of BSC.

On the other hand, author’s experience show that most frequently observed deficiency is that balanced scorecard is not properly linked to compensation plan. There may be two main reasons for the lack of such linkage. One of them is the evaluations within the BSC system which are not objective. Supervisors are asked to evaluate their subordinates whom they work very close. Since they work together everyday, they are not only colleagues but also friends and supervisors usually hesitate to give low ratings. Accordingly, emotional behaviors affect the actual ratings of personnel. Having this problem known by management, they usually do not rely on BSC results while determining the salary increase or promotions, but also consider other available information regarding the personnel.

Another important reason is that sometimes management does not believe in BSC system. They either apply because it is asked by senior management, or because it is advised by consultants and it sounds good for company image. In both cases, the result is no appreciation of BSC results by management. Although a person may have good ratings from customer, internal business process or learning and growth aspects of BSC, if management’s initial concern was related with financial performance, the person may not get compensation based on his success on other three perspectives.

In both cases, when employees identify that although they are required to fulfill certain responsibilities to reach the mutually agreed objectives in four perspectives, compensation is based on financial performance, they will try to focus mainly on financial issues ignoring the remaining three perspectives of customer, internal business process, and learning and growth. Therefore, it is not important whether the performance measurement system is named as BSC, but it is important how it is applied.

Furthermore, 27% application rate should increase in future. Well established and good working performance measurement system is the key factor for company's success. Therefore, it is an important part of management accounting.

Besides the performance measurement of individuals, performance measurement of the company, certain departments and/or projects are also very important. Especially to decide where to allocate resources, the shareholders would like to prefer the one with higher profitability, if they were managing the company by themselves. Therefore, analyses should be well prepared before allocating available funds to certain areas and the results throughout the process should also be followed closely. Economic Value Added (EVA) is one of the tools that can be easily applied to assess the net benefit to shareholders. Survey results show that 38% of the Companies use EVA; however, 27% consider EVA as a strategic management accounting tool and 21% consider as a control tool. Accordingly, Turkish companies should improve their ability to use value based measurement tools for further decisions.

However, in making projections and investment decisions for future, if the model is based on only current market conditions, without taking into account the changing environment at least in five years term, then the result may be misleading. Therefore, although suggested tools are used, the result will not be a valuable guide for decision makers. Accordingly, managers should be future oriented and consider rapidly changing environmental conditions while making plans, preparing objectives for the company.

Survey results showed that most important reason for preparing more detailed and accurate cost data is "strategic decision making". Considering that effect of cost data is understood in decision making, next step should be to improve the system used by the company so that relevant data can be produced. It is not important only to prepare detailed and accurate data but also relevant data. Otherwise, pages of management reports prepared are left on the tables of executives, who sometimes do not know what is included in the report. Furthermore, sometimes they do not even know how to read the reports prepared for them.

Therefore, when management accounting system is established or reorganized, involvement of users of the output is essential. They know what they need for decision making. However, while identifying the needs of users, it is also necessary to introduce new management tools being used in the world to managers who have been working for many years with traditional methods.

Survey results show that every single tool is not appropriate for every company. 17% of the companies who do not use ABC noted that ABC is not suitable for their company. For example, one would list different benefits of ABC and prove that it will give more accurate cost data with certain real life examples. However, this does not mean that ABC should be used by every company. Why should a company having limited overhead costs, or limited product/service differentiation use ABC? In fact, since ABC is considerably expensive method, cost - benefit analysis should be done before applying it. Survey results show that 10% of the companies not using ABC analyzed cost and benefit of ABC and accordingly decided not to use. If it is believed that using ABC will affect the decision making process significantly, it should be considered. In fact, companies need to consider applying Activity Based Management (ABM). Having more accurate data regarding an activity, will help management to decide whether any activity is value adding or not. Accordingly, management can investigate further how to get rid of the cost of non-value adding activities or at least decrease the number of such activities.

While economies have grown, competition was increased and globalization has become an important part of economic life, business risks have also increased. Accordingly, company managements have required further analysis while making decisions. These changes in environment, of course, have increased the importance of management accounting in business life.

Following anecdote[198] may well summarize the changing importance of management accounting and management accountants. In 1980s, management accounting was considered as reporting by executives. One day general manager told the manager in charge of accounting and finance (with their titles during 1980s):

"We, engineers, leave lot of mass around, while we do our work. You as accountants need to clean up this mass with broom and dustpan on hand."

In 1990s the introduction of new financial instruments and increased risks required management to be supported with necessary data for decision making. The chief financial officer (CFO) in 1990s, having what he was told in 1980s in mind, replied the chief executive officer (CEO) a decade later as follows:

"Executives acting as decision makers of companies are actually walking in a dark corridor. Accountants with lights on hand walk ahead of them and show the way."

Management accountants of 2000s are not reporters any more. Reports are generated from the accounting system automatically. They contribute to their companies as long as they enlighten the ways of the decision makers and help them to take correct decisions. Management accountants in Turkey, being aware of their contribution to the company achieving its long-term objectives, improve their skills accordingly.

Therefore, training is another key issue to be considered in development of management accounting practices. New management accounting applications are based on requirements. As managers ask for more valuable data, management accounting will improve itself. Accordingly, first managers at decision making position should be trained. New approaches can be taught to managers as "examples from new management accounting tools in the world". Real life examples always will have higher buy-in from managers.

Lectures including latest management accounting approaches should be included in accounting curriculum at universities, so that new members of the team will be equipped before they start working.

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[198] Orhan Ercek, personal interview, İstanbul May 4, 2006

During approximately last five years, executive MBA programs have become very popular. Professionals who would like to follow new trends in management, or who did not have management courses before, but in a management position now, prefer those courses. This would be an effective way to reach executives and introduce them new management accounting tools.

Finally, as stated by Johnson, [199]

“Business leaders should stop managing ends, but manage means”.

5.2 Limitations of the Research

Within this study, it was preferred to send questionnaires to the companies’ executives in order to reach as much company as possible. However, survey results showed that academic phrases might not be familiar to practitioners and therefore it is difficult to have uniformity in understanding. Furthermore, since many survey questionnaires in Turkey are being sent to public companies, some of the managers were not willing to answer the questionnaire due to their work load.

It is suggested that, for further investigations, face to face interviews and case studies on sample companies should be performed to have more relevant data.

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[199] Thomas H. Johnson, A Former Management Accountant reflects on His Journey Through the World of Cost Management, Accounting History, May 2002

APPENDIX 1 – QUESTIONNAIRE (ENGLISH TRANSLATION)

A. COMPANY DETAILS

1. Name of the Company

2. Number of personnel in accounting department ________

3. Is there a separate cost / management accounting department?
   a) No, it is handled within the accounting department.
   b) Yes, there is a separate cost accounting department consisting of _____ people
   c) Yes, there is a separate management accounting department consisting of _____ people
   d) Yes, there is a separate cost and management accounting department consisting of _____ people
   e) Other (pls. explain) ____

4. Approximate number of customers_________

B. COST ACCOUNTING SYSTEM – Manufacturing Companies

1. What percentage of your total operating costs are direct materials costs, direct labor, manufacturing overhead and depreciation and amortization?
   a) % _____ DM
   b) % _____ DL
   c) % _____ depreciation and amortization
   d) % _____ OH other than depreciation and amortization

2. Cost system used

   <u>Based on manufacturing system</u>

   a) Job-order
   b) Process
   c) Hybrid
   d) Other (pls. explain) _______________

   <u>Based on control effectiveness</u>

   a)Actual
   b)Standard

3. Cost formula used
   a) Specific identification
   b) Weighted average
   c) Moving average
   d) FIFO

4. Which method do you use for allocation of manufacturing overhead costs?
   a) Blanket overhead rate
   b) Departmental overhead rates
   c) Different rate used for different activities (ABC)
   d) Other (pls. explain) ______________

5. Which base or basis do you use for the allocation of manufacturing overhead costs?
   a) Direct labor hours
   b) Direct labor costs
   c) Machine hours
   d) Direct materials amount (quantity)
   e) Direct materials costs (monetary unit)
   f) Other (pls. explain) ______________

6. Which of the following(s) are included in cost of products for management reporting purposes?
   a) General and administrative expenses
   b) Sales and marketing expenses
   c) Financial expenses
   d) Other (pls. explain) ______________

C. COST ACCOUNTING SYSTEM – Trading Companies

1. Cost formula used
   a) Specific identification
   b) Weighted average
   c) Moving average
   d) FIFO

2. Which of the following(s) are included in cost of merchandise for management reporting purposes?
   a) General and administrative expenses
   b) Sales and marketing expenses
   c) Financial expenses
   d) Other (pls. explain) ______________

D. COST ACCOUNTING SYSTEM – Service Companies

1. What percentage of your total operating costs are materials costs, direct labor and manufacturing overhead?
   a) % ______ Direct Labor
   b) % ______ Overhead Costs
   c) %_______Material

2. Is there a cost computation at service category and/or customer level?
   a) No
   b) Yes, cost computation is also made at service category level.
   c) Yes, cost computation is also made at customer level.

3. While cost is computed at service category/customer level, which of the following(s) are used as the base for allocation?
   a) Direct labor hours
   b) Revenue generated from each service
   c) Other (pls. explain) ___________

4. Which of the following(s) are included in cost of products for management reporting purposes?
   a) General and administrative expenses
   b) Sales and marketing expenses
   c) Financial expenses
   d) Other (pls. explain) ______________

E. ROLE OF MANAGEMENT ACCOUNTING

1. If accounting policies applied in management reporting are different from those applied for the financial statements prepared in accordance with Capital Market Board regulations, please explain what they are. (e.g. useful life, cost allocation, costing method, etc.)

____

____

2. Which financial statements are prepared for management purposes and how often?

	Monthly	Weekly	Daily
Balance Sheet			
Income Statement			
Cash Flow Statement			
Statement of Changes in Shareholders' Equity			
Other (please explain)			

3. What other non-financial data are included in management reports other then the financial information? (e.g. shrinkage ratios, returns, production per person, sales per person, total machine hours, etc.)

____

4. Rate the purposes of management accounting from the most important to the least.

___ Generating relevant and accurate cost data for decision making by senior management

___ Creating a faster and more accurate reporting process

___ Setting standards for efficiencies and performance metrics for the enterprise

___ Reducing risk for the corporation

___ Cost reduction and driving efficiency

___ Other (please explain) _____________

5. For what purposes do companies need to compute more accurate and precise costs? Rate the following from the most important to the least.

___ Allocation of indirect overhead costs

___ Increase in shared services

___ Increase in cost of technology

___ Increase in product variety

___ Increase in customer profile

___ Increase in research and development costs

___ Strategic decision making

___ Other (pls. explain) ____________

6. For which of the following(s), cost data is used?
    a) For inventory valuation
    b) For sales price determination
    c) For performance measurement
    d) For investment decisions
    e) For tax base computation
    f) For profitability analysis
    g) Other (pls. explain) ____________

7. How important is the role of cost management in your organization's overall strategic goals?

Very important..not important						
1	2	3	4	5	6	7

F. MANAGEMENT ACCOUNTING / CONTROL TECHNIQUES USED

1. Which of the following(s) are used to assess the ability of the management to reach company objectives?
   a) Budget / actual comparison
   b) Sales analysis
   c) Market share
   d) Net profit
   e) Gross profit
   f) Return on investment
   g) Benchmarking
   h) EVA
   i) Stock price
   j) Other (please explain) ____________

2. Other than the financial parameters listed above, what other non-financial parameter(s) are used?
   a) Quality
   b) Customer satisfaction
   c) Shrinkage ratios
   d) Number of personnel per sales / production
   e) Other (please explain) ______________

3. For what other purpose is cost data used?
   a) To determine sales price
   b) To control costs
   c) For performance measurement
   d) To determine product / service mix
   e) Other (please explain) _______________
   f) Not used for other than preparation of financial statements

4. Which of the following strategic management techniques are used in your company?
   a) Competitor cost analysis
   b) Strategic pricing
   c) Just in time management
   d) Total quality management
   e) Target costing
   f) Kaizen costing
   g) Balanced scorecard (BSC)
   h) Economic value added (EVA)
   i) Other (pls. explain) _____________

5. What is the role of budget in performance measurement?

Very important...not important						
1	2	3	4	5	6	7

6. Budgets used are
   a) Variable
   b) Fixed
   c) Other (pls. explain) ________________

7. Budgets prepared are
   a) Operational budgets
   b) Investment budgets
   c) Other (pls. explain) ________________

8. How often are the budgets revised?
   a) monthly
   b) quarterly
   c) semi-annually
   d) Other (pls. explain) ________________

9. If EVA is used in assessing the company's performance in achieving its objectives;
   a) Used company wide
   b) Used for certain departments (please state name of the departments_________
   ____)

10. What is the role of EVA in assessing the performance of the company?

Very important...not important						
1	2	3	4	5	6	7

11. If BSC is used as a performance measurement tool;
    a) Used company wide
    b) Used for certain departments (please state name of the departments__________ ____)

12. How effective is BSC in performance measurement?

Very effective..not effective						
1	2	3	4	5	6	7

13. Do you apply Activity Based Costing (ABC)?
    a) Yes
    b) No
    c) We are planning to use.
    d) Partially.
    e) We are in testing process.

14. If your answer to the above question is b) No; why?
    a) Current system provides accurate results
    b) ABC is not suitable to this company
    c) ABC's additional cost will be greater than its benefit
    d) ABC is not very well known
    e) Other (please explain) _______________

15. Is there any ERP system used for management reporting purposes?
    a) Yes________________ (please state the name of ERP system used)
    b) No

16. To what extend does ERP system contribute to management accounting?

Very much…………………………………………………………Not so much						
1	2	3	4	5	6	7

17. Do you think management accounting system in your company is sufficient?

Sufficient…………………………………………………………Not sufficient						
1	2	3	4	5	6	7

18. What actions should be taken to improve management reporting in your company?

____

____

____

In order to share survey results with you:

Name:______________________________

Title: ________________________________

APPENDIX 2 – QUESTIONNAIRE (ORIGINAL IN TURKISH)

A. ŞİRKET BİLGİLERİ

1. Şirket İsmi ______________________________________

2. Mali İşler Bölümünde toplam kaç kişi çalışıyor? ________ kişi

3. Ayrı bir maliyet / yönetim muhasebesi ekibi var mı?
   a) Hayır, genel muhasebenin içinde takip ediliyor.
   b) Evet, ayrı bir maliyet muhasebesi ekibi var. _____ kişi
   c) Evet, ayrı bir yönetim muhasebesi ekibi var. _____ kişi
   d) Evet, maliyet ve yönetim muhasebesi aynı ekip tarafından takip ediliyor _____ kişi
   e) Diğer (açıklayınız) ____

4. Müşteri sayısı (yaklaşık) _________

B. MALİYET SİSTEMİ – <u>Üretim Şirketleri için</u>

1. Aşağıdakilerin toplam maliyet içindeki payı yaklaşık olarak nedir?
   a) % _____ ilk madde malzeme
   b) % _____ direkt işçilik
   c) % _____ amortisman
   d) % _____ diğer genel üretim giderleri

2. Kullanılan maliyet sistemi

<u>Üretim sistemine göre</u>

a) Sipariş maliyeti
b) Safha maliyeti
c) Karma maliyet sistemi
d) Diğer (açıklayınız) ___________

<u>Faaliyet etkinliğini ölçümleme yönünden</u>

a) Fiili maliyet
b) Standart maliyet

3. Kullanılan stok değerleme yöntemi
   a) Gerçek maliyet
   b) Aylık Ağırlıklı Ortalama maliyet
   c) Hareketli Ağırlıklı Ortalama maliyet
   d) İlk Giren İlk Çıkar (FIFO)

4. Genel üretim giderlerinin dağıtımında hangi metot kullanılmaktadır?
   a) Tüm ürünlere aynı dağıtım anahtarı ile
   b) Departmanlar bazında farklı dağıtım anahtarları kullanarak
   c) Farklı aktiviteler için farklı dağıtım anahtarları kullanarak (Faaliyet Tabanlı Maliyet Sisteminden faydalanılmaktadır)
   d) Diğer (açıklayınız) __________

5. Genel üretim giderleri dağıtım anahtarı olarak aşağıdakilerden hangisi / hangileri kullanılmaktadır?
   a) Direk işçilik saatleri
   b) Direk işçilik maliyeti
   c) Makine saatleri
   d) İlk madde malzeme tutarı (miktar)
   e) İlk madde malzeme maliyeti (TL)
   f) Diğer (açıklayınız) __________

6. Yönetim raporlamasında aşağıdakilerden hangisi / hangileri ürün maliyetine dahil edilmektedir?
   a) Genel yönetim giderleri
   b) Satış ve pazarlama giderleri
   c) Finansman giderleri
   d) Diğer (açıklayınız) ____________

C. MALİYET SİSTEMİ – <u>Ticaret Şirketleri için</u>

1. Kullanılan stok değerleme yöntemi
   a) Gerçek maliyet
   b) Aylık Ağırlıklı Ortalama maliyet
   c) Hareketli Ağırlıklı Ortalama maliyet
   d) İlk Giren İlk Çıkar (FIFO)

2. Yönetim raporlamasında aşağıdakilerden hangisi / hangileri ticari mal maliyetine dahil edilmektedir?
   a) Genel yönetim giderleri
   b) Satış ve pazarlama giderleri
   c) Finansman giderleri
   d) Diğer (açıklayınız) ____________

D. MALİYET SİSTEMİ – Hizmet Şirketleri için

1. Maliyetlerin toplam içindeki payı yaklaşık olarak nedir?
   a) % ______ direkt işgücü
   b) % ______ diğer genel üretim giderleri
   c) %______malzeme

2. Sunulan hizmet kategorileri bazında veya müşteri bazında maliyet çalışması yapılıyor mu?
   a) Hayır
   b) Evet, hizmet kategorileri bazında maliyetler ayrı hesaplanıyor
   c) Evet, müşteri bazında maliyetler ayrı hesaplanıyor.

3. Hizmet kategorisi veya müşteri bazında maliyet çalışması yaparken dağıtım anahtarı olarak aşağıdakilerden hangisi / hangileri kullanılmaktadır?
   a) Direk işçilik saatleri
   b) Hizmetten elde edilen hasılat
   c) Diğer (açıklayınız) ___________

4. Yönetim raporlamasında aşağıdakilerden hangisi / hangileri hizmet maliyetine dahil edilmektedir?
   a) Genel yönetim giderleri
   b) Satış ve pazarlama giderleri
   c) Finansman giderleri
   d) Diğer (açıklayınız) _____________

E. YÖNETİM MUHASEBESİNİN İŞLETME YÖNETİMİNDEKİ ROLÜ

1. Yönetim raporlamasında SPK mevzuatına göre hazırlanan mali tablolardan farklı muhasebe politikaları izleniyor ise bunlar nelerdir, açıklayınız. (örneğin, amortisman süreleri, gider dağıtımları, kullanılan maliyet sistemi vb.)
   a) Farklılık yoktur.
   b) Uygulanan farklı muhasebe politikaları şunlarla ilgilidir:

____

____

2. Yönetim raporlamasında hangi mali tablolar (yönetim için hazırlanan) ne sıklıkla hazırlanıyor, işaretleyiniz.

	Aylık	Haftalık	Günlük
Bilanço			
Gelir tablosu			
Nakit akım tablosu			
Özkaynak Değişim Tablosu			
Diğer (açıklayınız)			

3. Finansal verilerin dışında yönetim raporlamasında ne tür bilgiler bulunuyor, açıklayınız. (örneğin, fire oranları, iade oranları, çalışan başına üretim / satış, toplam makine saati vb.)

____

4. Yönetim muhasebesinin amaçlarını en önemliden önemsize doğru sıralayınız.

___ Yönetimin doğru ve yerinde kararlar alabilmesi için gerekli bilgileri sağlamak

___ Daha hızlı ve daha doğru bir raporlama süreci oluşturmak

___ Şirket için performans kriterleri oluşturmak

___ Riskleri en aza indirmek

___ Maliyetleri düşürmek, verimliliği artırmak

___ Diğer (açıklayınız) _____________

5. Hangi nedenlerle daha detaylı ve doğru maliyet hesaplamalarına ihtiyaç duyulmaktadır? Aşağıdakileri en önemliden en önemsize doğru sıralayınız.

___ Endirekt genel üretim giderlerinin dağıtımı

___ Ortak kullanılan bölümlerin artması

___ Artan teknoloji maliyeti

___ Artan ürün çeşitliliği

___ Artan müşteri çeşitliliği

___ Artan araştırma geliştirme maliyeti

___ Stratejik karar verme

___ Diğer (açıklayınız) ____________

6. Maliyet bilgisi aşağıdakilerden hangisi / hangileri için kullanılmaktadır?
   a) Stok değerlemesi
   b) Satış fiyatının belirlenmesi
   c) Performans ölçümü
   d) Yatırım kararlarının alınması
   e) Vergi matrahının hesaplanması
   f) Karlılık analizleri
   g) Diğer (açıklayınız) _____________

7. Maliyet yönetiminin şirketin stratejik hedeflerine ulaşmasındaki rolü nedir?

Çok önemli…………………………………………………………….Önemsiz						
1	2	3	4	5	6	7

F. KULLANILAN YÖNETİM MUHASEBESİ / KONTROL TEKNİKLERİ

1. Yönetimin şirket hedeflerine ulaşıp ulaşmadığının kontrolünde aşağıdakilerden hangileri kullanılmaktadır?
   a) Bütçe ile fiili karşılaştırması
   b) Satışlarla ilgili analizler
   c) Pazar payı
   d) Net karlılık oranı
   e) Brüt karlılık oranı
   f) Yatırım karlılığı
   a) Kıyaslama (Benchmarking)[*]
   b) EVA – Ekonomik katma değer[**]
   c) Hisse senedi değeri
   d) Diğer (açıklayınız) _____________

2. Yukarıda belirtilen finansal bilgiler dışında yönetim başarısının değerlendirilmesinde kullanılan finansal olmayan veriler nelerdir?
   a) Ürün kalitesi
   b) Müşteri memnuniyeti
   c) Fire oranları
   d) Çalışan başına üretim / satış
   e) Diğer (açıklayınız) _______________

3. Maliyet bilgisi mali tablo hazırlanması dışında başka hangi amaçla kullanılıyor?
   a) Satış fiyatlarının belirlenmesi
   b) Maliyetlerin kontrol edilmesi
   c) Performans değerlendirmesi
   d) Ürün ve hizmet çeşitliliğinin belirlenmesi
   e) Diğer (açıklayınız) ________________
   f) Mali tablo hazırlanması dışında kullanılmıyor

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[*] Benchmarking – Kıyaslama – şirket verilerinin, sektör ortalamaları ve rakiplerin verileri ile kıyaslanması sonucu değerlendirilmesi
[**] EVA – Ekonomik Katma Değer – faaliyet sonucunun, işletmeye sağladığı katma değeri (sermayenin maliyetini de dikkate alarak) hesaplayarak değerlendirilmesi

4. Şirketinizde aşağıdaki stratejik yönetim tekniklerinden hangileri kullanılmaktadır?
   a) Rakip maliyet analizi
   b) Stratejik fiyatlandırma
   c) Tam zamanında yaklaşımı (JIT)[*]
   d) Toplam kalite yönetimi
   e) Hedef maliyet
   f) Sürekli iyileştirme (Kaizen costing)[**]
   g) Dengeli puanlama (Balanced Scorecard)[***]
   h) EVA (Ekonomik Katma Değer)
   i) Diğer (açıklayınız) _____________

5. Performans değerlendirmesinde bütçenin önemi nedir?

Çok önemli...Önemsiz						
1	2	3	4	5	6	7

6. Bütçeler hangi yöntemle hazırlanıyor?
   a) Esnek
   b) Sabit
   c) Diğer (açıklayınız) ________________

7. Hangi bütçeleme teknikleri kullanılıyor?
   a) Faaliyet Bütçesi
   b) Yatırım Bütçesi
   c) Diğer (açıklayınız) ________________

8. Bütçeler ne sıklıkla revize ediliyor?
   a) Aylık
   b) 3 aylık
   c) 6 aylık
   d) Diğer (açıklayınız) ________________

9. EVA'yı şirket hedeflerine ulaşılıp ulaşılmadığının kontrolünde kullanıyor iseniz;
   a) Şirket genelinde kullanılmaktadır
   b) Sadece belli bölümlerde kullanılmaktadır (hangi bölümler olduğunu belirtiniz _____________________)

---

[*] JIT – Tam Zamanında Yaklaşımı – gerekli görülen veya talep edilen faaliyetlerin derhal devreye sokulmasını, dolayısıyla stoksuz çalışılmasını öngören yönetim sistemi

[**] Kaizen Costing – Sürekli İyileştirme – kalitenin artırılması, maliyetlerin düşürülmesi, fire oranlarının düşürülmesi vb. her alanda sürekli iyileştirme sağlanmasını öngören yönetim sistemi

[***] BSC – Dengeli Puanlama – performans değerlendirmelerinin sadece finansal verilere bağlı kalarak değil, aynı zamanda üzerinde daha önceden mutabık kalınmış bir takım finansal olmayan hedeflere ulaşmaktaki başarıyı da dikkate alarak değerlendirilmesini öngören performans değerlendirme sistemi

10. EVA'yı şirket hedeflerine ulaşılıp ulaşılmadığının kontrolünde kullanıyor iseniz; bu değerlendirme çerçevesinde EVA'yı ne kadar önemli görüyorsunuz?

Çok önemli...Önemsiz						
1	2	3	4	5	6	7

11. Dengeli puanlama (Balanced Scorecard) tekniğini kullanıyor iseniz;
    a) Şirket genelinde kullanılmaktadır
    b) Sadece belli bölümlerde kullanılmaktadır (hangi bölümler olduğunu belirtiniz ____)

12. Dengeli puanlama (Balanced Scorecard) tekniğini kullanıyor iseniz; amacına ulaşmada ne kadar yeterli görüyorsunuz?

Oldukça yeterli..Yetersiz						
1	2	3	4	5	6	7

13. Faaliyet tabanlı maliyet sistemi kullanıyor musunuz (ABC)*?
    a) Evet, kullanıyoruz.
    b) Hayır, kullanmıyoruz.
    c) Kullanmıyoruz, ama kullanmayı düşünüyoruz.
    d) Kısmen, bazı giderlerin dağıtımı için kullanıyoruz.
    e) Test sürecindeyiz.

14. Yukarıdaki soruya cevabınız b) hayır ise; neden?
    a) Kullanılan sistem yeterli ve güvenilir bilgi sunuyor
    b) ABC bu şirket için uygun değil
    c) ABC uygulamanın maliyeti sağlanacak faydalardan daha fazla olur
    d) ABC 'yi iyi tanımıyoruz
    e) Diğer (açıklayınız) ________________

15. Şirketinizde yönetim raporlaması için kullanılan bir ERP modülü var mı?
    a) Evet, var.______________ (kullandığınız paketin adını belirtiniz)
    b) Hayır, yok.

* ABC – Faaliyet Tabanlı Maliyet Sistemi – endirekt giderlerin faaliyet bazında sınıflandırılarak sadece üretim hacmine bağlı kalmaksızın ürün maliyetine dağıtımını sağlayan maliyet sistemi

16. Varsa, kullanılan ERP ‘nin yönetim raporlamasına katkısını nasıl değerlendiriyorsunuz?

Katkısı çok fazla…………………………………………………Katkısı yok						
1	2	3	4	5	6	7

17. Şirketinizdeki yönetim raporlamasını yeterli buluyor musunuz?

Oldukça yeterli…………………………………………………Yeterli değil						
1	2	3	4	5	6	7

18. Şirketinizdeki mevcut yönetim raporlamasını geliştirmek için neler yapılması gerekir?

____
____
____
____
____
____

Anket sonuçlarını sizinle paylaşabilmemiz için lütfen isim ve görevinizi belirtiniz:

İsim:__________________________

Görev: _________________________

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