

The Extent of Application of Standard Costing: A Comparison of Chinese and Pakistani Manufacturing Firms

Mula Nazar Khan^{*}, Muhammad Rizwan, Fahad Islam, Zain Ul Aabdeen

Hailey College of Commerce, University Of the Punjab, Lahore, Pakistan

Abstract

The purpose of the study is to investigate the extent to which Standard costing and variance analysis is being used by Pakistani and Chinese firms. It also investigates the difference in usage of Standard costing between Pakistani and Chinese firms. Data is collected through questionnaires from 57 Chinese companies and 64 local firms. A close ended questionnaire has been used to collect the data from the sampled companies. The researcher used referring/snowball sampling to approach the manufacturing companies which were included in sample in this study. The questionnaire was adopted from the prior studies. Empirical results Suggest that standard costing is still used in local and Chinese firms. SPSS software is used to test the data. Results indicate that 71 percent of the Chinese firms and 69 percent of the Pakistani firms use the standard costing in their system. Our Research is useful for the corporate managers while making decisions regarding Costing system.

Keywords

Standard Cost, Cost Control, Pakistan, Inventories, Chinese, Evaluation, Management Accounting

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1. Introduction

Standard is a benchmark or quality and the predetermined cost of a product or service is called standard cost. For example the cost of this BAL pen should be Rs.10 so the standard cost of the pen is Rs.10. Accordingly is are target cost, which are incurred according to well organized operating conditions. There are many reasons for using standards but the most frequent motive is because they estimate product costing techniques. Standard costing is the traditional management accounting which has been used during the last century on a wide frontier (Ask U. A., 1997). The main reason for the using of standard costing is that relying on actual costing could not provide managers appropriate data which are needed by managers. Generally the purpose of the standard costing is to provide cost information related to controlling cost, provide quickness and

convenience to compute production cost. It also helps in preparing the business budgets, pricing products and measuring the performance of managers by comparing the actual costs with standard cost. Standard costing is mostly used in production companies where products are produced constantly and permanently (Kucksavas, 2006).

According to various authors standard costing is inconsistent with today manufacturing environment (Monden Y. a., 1993). Companies should use just in time system, process Re-engineering .Target Costing, Life cycle assessment, Total quality management (TQM) so they can meet the competitive global business .Authors says that these tools enhance the ability of the corporation to meet the strategic objectives and also enables these companies to compete globally Additionally, many have predicted that the shorter product lifecycles, advanced manufacturing technologies, decreasing emphasis on labour in the production process and global

^{*} Corresponding author

E-mail address: Nazarkhan156@gmail.com (M. N. Khan)

competition may lead to their demise (Kirwan, 1986). However empirical evidences shows that a large majority of firms use standard costing for cost control by comparing the actual costs with standard cost pinpoint areas where cost is going out control allowing the management taking remedial action and also used for decision making and performance evaluation (Cornick & W. and Wilson, 1998). Since, the introduction of standard costing in early 1990s, it has been widely used for various purposes by companies around the world such as valuation of stock, cost reduction and budgeting. Standard costing become more popular for managers as a powerful control tool because it allow them to employ management by exception, where management provides a fixed target and does not interfere as long as the targets are adhered to or achieved; management intervention comes only in cases of deviations. Standard costing management by exception frees the management from routine chores and places the focus on core issues (Chang, 2005).

Standard costing is more suitable in operations where activities consist of repetitive operations. In manufacturing organization processes are mostly repetitive in nature and therefore standard costing is relevant in these kinds of manufacturing organizations. Standard costing procedures cannot be applied to non manufacturing activities where operations are of repetitive in nature. However, standard costing cannot be easily applied to non repetitive activities, as there is no basis for observing repetitive operations and therefore standards cannot be set. In organizations that produce many different products and the production consist of series of common operations it is possible to apply a standard costing system (Drury, Practices of Standard Costing, 1992). Technological developments and globalization increase competition that firms face in order to survive. Manufacturing costs are one of the main tools that firms have still some control to compete in the market. Today, there is a debate about the usefulness of standard costing in today's manufacturing environment (Drury, 1999).

Some authors say that the benefits of standard costing is less evident in today's manufacturing environment in fact standard costing may lead to a dysfunctional behavior. For example a material purchase variance may encourage purchasing the material in bulk in order to take advantage of discount, thus this resulting in high inventory holding costs. With respect the purchasing manager, this action, is inconsistent with Just in time (JIT) Philosophy. Additionally the periodic standard cost variance reports prepared are deemed less useful by managers as the information provided is "after the fact" (Lucas, 1997).

In standard costing system managers who are responsible for various operations trace the standard costs for the actual

output for a particular period. When it comes to the actual costs for the same period they are also charged to the responsibility centers. The two costs, the standard and the actual, are then compared and the variance between the two is reported (Drury, 1992). The manufacturing environment in Japan particularly has changed drastically as it has the influence of these new technologies more than any other country in the world. These changes in the manufacturing environment seemingly have reduced the significance of standard costing especially as a cost control system

1.1. Research Objectives

The objective of this study is:

1. To examine the extent to which standard costing and variance analysis are being used by manufacturing companies in Pakistan
2. To examine the extent to which standard costing and variance analysis are being used by manufacturing companies in China
3. To examine and compare the management account development in Pakistan and China

1.2. Research Questions

1. Is standard costing used in Pakistan?
2. Is standard costing used in China?
3. How important are various functions of standard costing?
4. How important is the variance analysis for control purpose?

2. Literature Review

The current prevailing view is that traditional management including standard costing cannot respond to changes in the nature and structure of organization. So management accountant are unable to provide information to the management, that they needed for effective decision making and control in the manufacturing environment (Lyall & K. and Puxty, 1990).

Especially standard costing is criticized in advanced manufacturing environment that results in declining direct labour costs and material cost reduce inventories and just in time production methods. The criticisms increased especially during the second half of the 1980s. Some academicians affirm that the importance of standard costing and variance analysis for cost control and performance evaluation decreased due to the fierce competitive environment (Kaplan, 1987). In general, the criticisms of standard costing mainly relate to today's high competitive environment and improving production technologies. The decreasing role of

labour and shortened product life cycles caused large firms to plan their activities with different production philosophies such as Product Life Cycle Management, Just-in-Time manufacturing, Activity Based Management (ABC), and Total Quality Management. The firms use strategic cost methods - namely ABC, Target Costing, Product Life Cycle Costing for the calculation of production costs and their control these developments decreased the importance of standard costing (Hilton, 2001).

The most severe criticism came from Lucas (1997) "who stated that the method has become obsolete, and it should not be included in cost accounting courses. However, standard costing continues to be incorporated in cost and management accounting textbooks and university course curriculum". The authors says that the standard costing is traditional management tools and it is going to become obsolete and not still used in manufacturing organizations due to the latest management accounting tools.

Contrary to the preceding arguments, studies examining the use of standard costing among companies in the developed and the developing countries have shown widespread use of the technique (Puxty, 1990). We are not always blessed with recent studies, so have to make the best of those studies that have been undertaken over the past decade or more. A study conducted in UK found that 90 percent of 231 companies use standard costing for cost control. Of these 35 percent companies says that information provided by standard costing is useful and also "essential". Further 63 per cent of the managers whose companies have adopted standard costing, felt that the technique is "very useful" for decision making and control. However, most managers in that study perceived that standard costing was not useful to motivate subordinates (Lyll D. a., 1993). In Korea, standard costing is still favored by many firms. Out of the 115 electronics, electrical and machinery firms that they surveyed, 44 per cent said that they used standard costing (Ahn T. a., 1994).

Standard costing has been widely used in developed countries. Although the main purpose is to control costs, standard costing has also contributed to managerial activities such as budgeting and product pricing. For instance, surveys that were performed during the 1980s and 1990s showed that production firms mostly used standard costing systems. The reported usage rates were 65% in Japan, 73% in Sweden, 76% in England, 84% in Ireland, and 86% in USA (Horngren, 2008).

Studies conducted in Asian countries find that (which are generally, developing) Mirror those of the developed countries. In India 8 percent companies are surveyed and findings show that 60 percent of companies use standard costing (joshi, 1995). In Singapore, Ghosh et al. (1987) found

47 per cent of the companies' surveyed used standard costing. A later survey by Ghosh and Chan (1996) found the percentage to be higher at 56 per cent. In Brunei, standard costing and variance analysis are widely used by international firms In Korea, standard costing is still favored by many firms). Out of the 115 electronics, electrical and machinery firms that they surveyed, 44 per cent said that they used standard costing (Ahn T. a., 1994).

In the Philippines, according to Diga (1997), standard costing procedures are being used by both medium- and large-sized companies. Thus, the contention that standard costing is less relevant in today's manufacturing environment, as suggested by authors others, may not hold true (Monden Y. a., 1993).

The result of a study conducted shows that standards are widespread within the Swedish manufacturing industry: 73 percent of the companies operate a standard costing system. Results of Ask and u are supported by a study conducted by Puxty and Lyall (1989), which reported that 76 percent of the UK commercial and industrial organizations operate a standard costing system (Ask U. M., 1997).

Standard costing has been considered a very useful technique for cost control, performance evaluation and determining the product costing. According to Mitchell standard costing provides a number of benefits in performance evaluation such as:

Standard cost variances provide feedback information designed to help managers control operations in accord with the plans they have set. They highlight the difference between the planned costs of a period and the actual costs incurred over that time. Cost variances comprise several different elements that together make up the total reported variance: 1. costing system errors, 2. inappropriate standards, 3. uncontrollable random factors, and 4. controllable variances with operational causes (Mitchell, 2005).

Japanese companies recognize that they have reached a strategic turning point and are adjusting their management accounting policies accordingly. They are moving away from standard cost systems installed when the firms used to supply a stable product range to a stable market. Today's vast array of products means that they are subject to rapid obsolesces, and in addition, technological changes pose severe challenges to existing standard cost systems The results of the past surveys on the use of standard costing also confirmed the view that standard costing was more popular in the USA than in Japan (Morgan, 1989).

3. Research Methodology

This study has been conducted using primary data. The population for this investigation is number of different

companies from manufacturing sector of Pakistan and China. This is a type of quantitative study.

3.1. Sampling Technique/Procedures

The researcher used referring/snowball sampling to approach the manufacturing companies which were included in sample of this study. The population for this study is the manufacturing sector. However, a sample consisting of 100 Pakistani and 80 Chinese companies was selected. The study is quantitative in nature conducted to find out whether or not respondents use standard costing.

3.2. Data Collection

Primary data have been collected through a structured questionnaire. The researcher examined the standard costing method which is being used in the manufacturing concerns. For this purpose, a structured questionnaire was mailed to a sample of a population. The questionnaire was sent to the accounts department of the selected Chinese and local firms of Pakistan. Either the account manager or the person responsible for the cost accounting was asked to complete the questionnaire.

3.3. Questionnaire

A close ended questionnaire has been used to collect the data from the sampled companies. The questionnaire was adopted from the prior studies. All the constructs were having good reliability. The questions were related to the use of costing procedures by the firms.

3.4. Software Package

The collected data were entered into SPSS software to analyze the descriptive statistics. Frequency tables regarding use of costing methods, variance analysis, company characteristics have been constructed.

4. Data Analysis/Results

SPSS software has been used for data analysis and descriptive statistics is shown in the form of frequency tables. In some responses are later than A Mann-Whitney U-test has been conducted to examine the differences in responses between early and late responses. Frequency Tables are also shown, e.g. respondents' companies names, financial information, Assets, Profits, No of total employees working in the respondent organization etc.

Table 1. Response Rate.

	Numbers sent	Numbers Received	Response Rate(%)
Chinese	80	57	71
Local	100	64	64

The structured survey questionnaire based on standards used by the firms was sent to 80 Chinese firms and 100 local firms of Pakistan. Out of 80 Chinese firms, only 57 companies responded properly giving 71% response rate. Only 64 out of 100 Local firms of Pakistan responded showing 64% response rate.

Table 2. Company Characteristics.

Net Assets(Book Value)	Chinese		Local	
	Frequency	Percentage	Frequency	Percentage
0-100 million	15	26	8	13
101-200 million	9	16	11	17
201-500 million	21	37	16	25
Above 500 million	12	21	29	45
Total	57	100	64	100

The selected companies were classified according to the size of book value of each firm in rupees. From Chinese companies most of the companies fall in book value of 201-500 million rupees which is 37% followed by 26% which are having 100 million or less. From the local companies most of the companies are having book value greater than 500 million rupees which constitute 45%.

4.1. Use of Standard Costing

Table 3. Extent of standard costing application.

	Chinese(%)	Local(%)
Yes	71	69
No	29	31
Total	100	100

On asking about the application of standard costing by the sampled companies, 71% of the total selected Chinese companies use standard costing technique whereas in case of Pakistan this technique is used by 69% of Local firms of Pakistan.

4.2. Importance of Standard Costing

Table 4. Mann-Wittney-U Test.

	Chinese	Local
Cost control and performance evaluation	3.22	4.39*
Costing inventories	3.89	3.76*
Computing product cost for decision making	4.56*	3.51
As an aid to budgeting	4.47*	3.29

Note:* Significant at 5 percent

Chinese companies use standard costing mostly for computation of the product costing for decision making purposes. The secondary purpose of standard costing is to aid in budgeting. These results are significant at the 5% level of significance. In local firm's standard costing is frequently used for cost control and performance evaluation followed by

costing inventories, which are significant at the 5 % level.

Table 5. Setting labour and material standard.

	Chinese	Local
Standard based on design	4.23*	3.35
Observations based on trial runs	3.12	3.15
Work Study Technique	2.85	2.49
Average of historical usage	3.21	3.47*

Note: M-W test * Significant at 5 percent

Chinese companies develop and adopt costing standard based on design and local firms take into account the average of historical use of labour and material standard.

Table 6. Type of Standard used by companies.

	Chinese (%)	Local (%)
Maximum efficiency Standard	30	15
Achievable but difficult to attain Standard	25	32
Average past performance standard	37	35
Others	8	18
Total	100	100

The standard used frequently by the Chinese companies is the average past performance standard and maximum efficiency standard. Local firms of Pakistan mostly follow average past performance standard and achievable but difficult to attain standard.

Table 7. Frequency of reviewing standards by companies.

	Chinese (%)	Local (%)
Monthly or quarterly	13	14
Semi-annually	44	27
Annually	16	38
Continuously	27	21
Total	100	100

Most Chinese companies review their costing standards semiannually. Companies 44% of the total follow and review their standards semiannually and 27% review continuously. Local firm of Pakistan, which review their standards annually are 38% of the total.

5. Conclusion

71 percent of the Chinese firms and 69 percent of the Pakistani firms use the standard costing in their system. With respect of the Chinese firms they use standard costing for Computing product cost for decision making and as an aid to budgeting, their standards are based on design, use Average past performance standard and review their standard continuously.

On the other hand, 69 percent of the Chinese companies use standard costing, they use their standard costing for cost control and performance evaluation which indicates that these firm compare their actual cost with the estimated cost that pinpoint the areas that goes out of control and deviate from

the expected results. So management take corrective action to correct these areas. These firms also use standard costing for costing inventories. Chinese firms use average of historic method to set the labour and material standard. The type of standard that is used by these firms is Average of past performance. Chinese firms review their standards annually.

Despite many criticism standard costing is still used by companies in Pakistan and China.

There are some limitations in the study which the future researchers may solve it through further research. Firstly, sample size is very small. Secondly, this study consider only manufacturing companies in the future study also include combination of sectors. Thirdly, the Response rate is also very low. Future Research will conduct case studies to investigate this traditional tool of standard costing.

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