EVALUATING THE COST OF RESOURCES CONSUMED IN THE MAIN ACTIVITY OF IRAN KHODRO

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Abstract
This study has done to evaluating the cost of resources consumed in the main activity of Iran Khodro. The population of this study are the directors and heads of departments, including productive and nonproductive at Iran Khodro that were 305. Data has collected from 180 person from production, service, administrative, selling and … departments by a questionnaire with study of variables and observation by analysis of documents. Five item Likert's range was used which involve form completely opponent to completely proponent to get responders opinions. All the reliability and validity of measures has examined. Questionnaire reliability was estimated by calculating Cronbach’s Alpha via, it was 0.84. In order to analyze the data resulted from collected questionnaires deductive and descriptive statistical methods are used, and to display some statistical data we used column diagram and in deductive level to test the hypothesis of the research we used $X^2$ and one simple t-test. Findings show that it is impossible to identify the cost of resources consumed in the main activity of Iran Khodro.

Keywords: Main Activities, Iran Khodro, Resource Consumption Accounting

INTRODUCTION

In Iran during the course of the last year a series of strikes and protests in the manufacturing sector have finally brought to light the widespread discontent of workers over conditions of employment, work and pay, which have been simmering for several years. At stake in these confrontations are issues not only of employer strategies of productive organization, work and pay, but also the neo-liberal policies of the Islamic Republic that have intensified the casualization of employment relations, and have led the state into actively participating in the violent settlement of disputes on the side of the employers (Mather et al, 2007).

The most prominent dispute, which initiated this latest wave of protests and one which has gained international attention, was a strike of Tehran’s bus drivers in January 2006. They were demanding the right to set up an independent trade union to advance their demands. Several
hundred bus drivers’ and members of their families were arrested within a few hours of the beginning of the strike in order to force the strikers back to work.1

Another important dispute involved workers at Iran Khodro Diesel, a major contractor for Iran Khodro, Iran’s biggest car manufacturer. They have been striking against management attempts to impose pay cuts on the many contract workers who work for the firm.

The principle of causality is the most important concept covering cause and effect relationship. Causality requires resource flows and their costs to be modeled from resource to consumers (support and direct) through the value chain on strict cause and effect basis. If a resource pool does not require output from another resource pool, it will not carry any costs from that resource pool. It means the final product and service will not reflect full cost as defined by generally accepted accounting principles. Full cost requires non-causal allocation of costs to the unit level of a product or service. The relevant term for a purely causal-based cost of a final unit of a product or service is the attributable cost (Ajaz Ahmed and Moosa, 2011).

The principle of responsiveness ensures the compliance with the principle of causality in modeling the resource consumption with main focus on cost behavior. Responsiveness governs the fixed and proportional costs relationship between resource pools. The divisibility of cost achieved by applying the principles of causality and responsiveness supports an extremely wide range of decision and planning scenarios. The principle of responsiveness has a number of advantages -1. Allowing inverse relationship between total cost and total volume when manufacturing more complex products. 2. Providing managers specific insights into resources when they relate them to changes in product output.3. Enabling the accurate modeling of an organization’s economic flow of goods and services regardless of its complexity (Ajaz Ahmed and Moosa, 2011).

The principle of work (process) visibility is adopted from Activity-Based Costing (ABC) and is applied with quantity based drivers when needed for decision support or process improvements sometimes tracing resource flows between cost objects does not yield sufficient information for managerial decisions while it is necessary to know what activity is executed in the resource consumption between resource pools. This principles applies to activity modeling by including such activities in the model which add critical and ongoing information that managers need frequently. The activities must have quantity-based drivers that provide capacity information and consume input in a quantitative manner (Van der Merwe, 2007). RCA creates a cost model that supports managers’ decisions throughout the organization and aligns them with the organization’s enterprise optimization strategy. RCA forms the cost model which starts by understanding the organization’s strategy, it’s competitive position, the resource flows in the organization and their interaction to support each other to create products or services for sale. The following paragraphs describe principles, concepts and a variety of other technical aspects on RCA.

Resource Consumption Accounting (RCA) is formally defined as a dynamic, fully integrated, principle-based, and comprehensive management accounting approach that provides managers with decision support information for enterprise optimization. RCA is a relatively new, flexible, comprehensive management accounting approach based largely on the German management accounting approach Grenzplankostenrechnung (GPK) and also allows for the use of activity-based drivers (Krumwiede, 2005).

In 2008, a group of interested academics and practitioners established the RCA Institute to introduce Resource Consumption Accounting to the marketplace and raise the standard of management accounting knowledge by encouraging disciplined practices. By July 2009, Professional Accountants in Business (PAIB) Committee of International Federation of Accountants (IFAC), recognized Resource Consumption Accounting in the International Good Practice Guidance (IGPG) publication called Evaluating and Improving Costing in Organizations (Professional Accountants in Business, July 2009) and its companion document, evaluating the Costing Journey: A Costing Levels Continuum Maturity Model. The guide focuses on universal costing principles and with the Costing Levels Maturity Model (2009) acknowledges RCA attains a higher level of accuracy and visibility compared to activity based costing for managerial accounting information when the incremental benefits of RCA's better information exceed the incremental administrative effort and cost to collect, calculate and report its information.

According to International Federation of Accountants, 2009 “A sophisticated approach at the upper levels of the continuum of costing techniques provides the ability to derive costs directly from operational resource data, or to isolate and measure unused capacity costs. For example, in the resource consumption accounting approach, resources and their costs are considered as foundational to robust cost modeling and managerial decision support, because an organization’s costs and revenues are all a function of the resources and the individual capacities that produce them.”

Resource Consumption Accounting was also recognized in a Sustainability Framework Report issued by the International Federation of Accountants (IFAC), for having the capability of helping organizations “improve their understanding of environmental (and social) costs through their costing systems and models”. This Sustainability Framework highlights RCA under the sub-heading Improving Information Flows to Support Decision and informs readers that proper cost allocation can be built ‘directly into the cost accounting system’, thereby enhancing an organization's performance for “identifying, defining and classifying costs in a useful way” (Clinton, Anton van der Merwe, 2008).

RCA concepts that distinguish it from other management accounting approaches include the following:

1. Germany’s GPK method of quantity-based operational modeling using fixed and proportional costs established at the resource level in a company (i.e., cost center/resource pools or value streams”); (Friedl, et al, 2005).
2. Gordon Shillinglaw’s concept of attributable cost; (Shillinglaw, 1963).
3. Flexible use of activity-based drivers (only where needed) based on specific, and restrictive rules;
4. Value chain integration (Value chain integration, 2008) of management accounting into operational systems;
5. Use of fundamental operations transactions as the primary source for financial and quantitative data (rather than the general ledger);
6. Replacing the principle of variability with the principle of responsiveness for operational modeling; (Van der Merwe, 2007).
7. Support for a multi-level, contribution margin-based profit & loss statement that supports managerial decision making without the cost distortions and complexity of inappropriate (not based on the principle of causality) allocations of cost.
8. 
METHODOLOGY

The population of this study are the directors and heads of departments, including productive and nonproductive at Iran Khodro that were 305. Data has collected from 180 person from production, service, administrative, selling and … departments by a questionnaire with study of variables and observation by analysis of documents. Five item Likert's range was used which involve form completely opponent to completely proponent to get responders opinions. All the reliability and validity of measures has examined. Questionnaire reliability was estimated by calculating Cronbach’s Alpha via, it was 0.89.

In order to analyze the data resulted from collected questionnaires deductive and descriptive statistical methods are used, and to display some statistical data we used column diagram and in deductive level to test the hypothesis of the research we used $X^2$ and one simple $t$-test.

RESULTS AND CONCLUSION

Cost management systems involve the sets of methods to planning and controlling of Expensive activities in organization. Our purpose is evaluating the exciting IT ability in the information gathering related to firm activities (see Table 1).

Table 1: The frequency of responds

<table>
<thead>
<tr>
<th></th>
<th>Very Low</th>
<th>Low</th>
<th>Middle</th>
<th>High</th>
<th>Very High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>F</td>
<td>25</td>
<td>51</td>
<td>67</td>
<td>32</td>
<td>5</td>
<td>180</td>
</tr>
<tr>
<td>Percent</td>
<td>14</td>
<td>28</td>
<td>67</td>
<td>32</td>
<td>5</td>
<td>180</td>
</tr>
<tr>
<td>$\Sigma FX$</td>
<td>25</td>
<td>102</td>
<td>201</td>
<td>128</td>
<td>25</td>
<td>481</td>
</tr>
</tbody>
</table>

According to table (1), only 21 percent of responders believes that main activities of Iran Khodro have used correct consuming materials.

1) One-sample T test Results

In this case we have two hypotheses:

$H_0$: The cost of resources consumed in the main activity is not measured correctly.

$H_1$: The cost of resources consumed in the main activity is measured correctly.

$H_0 : \mu \leq 3$

$H_1 : \mu > 3$

Table 2 shows sample output of a one-sample T test. We compared the mean level of cost of resources consumed main activities of Iran Khodro for our sample to a known population value of 3.

Table 2. Descriptive statistics and the results of one-sample T test

<table>
<thead>
<tr>
<th>Sample Statistics:</th>
<th>Number Of Obs.</th>
<th>H2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>2.672</td>
<td>180</td>
</tr>
<tr>
<td>Variance</td>
<td>1.026</td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>1.013</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Interval Confidence For Mean: 95 percent

Sample 1 179 D.F. 2.523 2.821

Interval Confidence For Variance: 0 percent
Sample 1

Hypothesis Test for

\[ H_0 : \text{Mean} = 3 \]

\[ \text{Computed t Statistic} = -4.34144 \]

Vs Alt : GT  \[ \text{Sig. Level} = 0.999988 \]

At \[ \text{Alpha} = 0.05 \]  So do not reject \[ H_0 \].

The mean of characteristics of culture is 2.821, which is little than population mean of 3. And T value is -4.34144 in 179 degrees of freedom. The estimated significance t-value is smaller than t-table among (1.96). Therefore, we can confirm \[ H_0 \].

2) \( X^2 \) Results

In this case we have two hypotheses:

\[ H_0 : \text{obtained distribution is uniform distribution} \]

\[ H_1 : \text{obtained distribution is not uniform distribution} \]

Table 3 show the results of \( X^2 \) to confirm or not of obtained distributions.

Table 3: The \( X^2 \) results

<table>
<thead>
<tr>
<th>Observed Frequency</th>
<th>Expected Frequency</th>
<th>Chi - Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>36</td>
<td>-11</td>
</tr>
<tr>
<td>51</td>
<td>36</td>
<td>15</td>
</tr>
<tr>
<td>67</td>
<td>36</td>
<td>31</td>
</tr>
<tr>
<td>32</td>
<td>36</td>
<td>-4</td>
</tr>
<tr>
<td>5</td>
<td>36</td>
<td>-31</td>
</tr>
</tbody>
</table>

\[ \text{Chi-Square} = 63.4444 \] With 4 d. f.

\[ \text{Sig. Level} = 0 \]

According to table 3, The Chi-Square is 63.4444 With 4 df. The sig level is 0.000 and smaller than 0.05. So, obtained distribution is not uniform distribution. In other hand, there are different ideas about \( H_0 \). It means that we can confirm \( H_0 \) and reject \( H_1 \).

Findings show that it is impossible to identify the cost of resources consumed in the main activity of Iran Khodro.

References


8) Value chain integration (i.e., a quantitative model in the operational systems) eliminates dependency on the General Ledger for managerial decision-making. General Ledgers are primarily a tool for financial reporting in accordance with generally accepted accounting principles. (GAAP reporting is specifically designed for external stakeholders – creditors and investors, not internal managers – and external comparisons associated with investing activities.) "RCA Institute - FAQ's". Retrieved 2008-09-05.


10) Van der Merwe, Anton (Sep–Oct 2007). "Management Accounting Philosophy Series II: Cornerstones of Restoration". Journal of Cost Management 21 (Number 5)