AN EMPIRICAL STUDY OF HISTORICAL ACCOUNTING AND CURRENT COST ACCOUNTING

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Abstract: The study aims to know the significant difference between historical cost accounting and current cost accounting. Both methods are important as each method has its advantages and disadvantages. The major objective of any organization is to continue in business and make a profit.to achieve this, companies have to show their performance in the right way by choosing the appropriate method. The entire information used in this project is downloaded from (secondary data) the official website of the Muscat security market (MSM) from the industrial sector specifically the financial statements of 14 food sector companies for the period of (2013-2019). Moreover, financial statements were analyzed and studied in-depth using different statistical tools like (ANOVA and Regression) to answer the research questions, test the hypothesis and reach the goals of this project. All these procedures are taken under ethical implications as we rely on the published audited reports

Index Terms **– Historical cost accounting, Current cost accounting, Inflation.**

I. INTRODUCTION

Accounting has been portrayed as the method of recording, summarizing, evaluating, interpreting, and communicating financial information to the shareholders of an entity to support effective decision-making as shareholders are more interested in this data than trade creditors, financial information has traditionally been arranged beneath historical bookkeeping. Knowing that Historical cost bookkeeping relates to IFRS whereas current cost bookkeeping is not. Be that as it may, there are circumstances when financial statements arranged under this traditional approach can misleadingly show financial information. Disregarding inflation could be a serious limitation of the historical cost accounting approach. Financial statements without legitimate inflation adjustment do not sufficiently reflect the financial condition and results of business enterprises. In Oman, companies are taking after historical accounting methods.

The items of a financial statement based on historical costing' are recorded at the time and date at their original acquiring cost. Additionally, historical cost is reliable, comparable, and verifiable, which implies it is simpler for the clients to know the precise value of the companies' assets and the reduction in cost and depreciation. Since the real value does not change and the depreciation methods are standard, it is simple to see what the current value of each sort of asset is at any point in time. For budgetary statements, historical cost accounting is relevant since it offers an explanatory view of where the real cost of the item can be tracked. It offers a fair depreciation basis and it could be a system that is stable, less complex, and more cost-effective.

The financial accounting term "Current Cost Accounting" alludes to an approach that measures assets at fair showcase value instead of historical cost. In practice, operating costs can be decided in several ways, including applying a specific cost index to the asset's book value. Besides, this method includes a process of preparing and interpreting financial statements that take into consideration the relative changes in costs. Under the current cost accounting method, the value of an asset is maintained based on its present value. However, the retail cost index is not taken into consideration. The current costing method is an alternative to the current purchasing power (CPP) method. The most objective of current cost accounting is to report the company's financial assets and liabilities at fair market value rather than historical costs.

In precise, the downsides of the historical cost principle are reflected within the reliability and usefulness of the published statement of operating results and the interpretation of financial statements. In the case of operating metrics, historical cost accounting compares operating income (at current costs) to historical costs such as property, plant, and equipment depreciation. Amid periods of inflation, the adjustment process leads to an inflation of profit. Subsequently, to preserve the company's capital in genuine terms, it is imperative to create the necessary adjustments to historical value. The impact of price movements on financial statements in Oman is significant and requires extraordinary consideration from pertinent professional and regulatory authorities, but little has been done so far to ensure that reported companies precisely reflect the inflation impact on their financial statements.

II. SUMMARY OF LITERATURE REVIEW

Year	Objective of research	Country	Method	Main findings
2020	To discusses the disadvantages of historical cost accounting information under inflationary conditions.	Egypt	Theoretical Study. (Primary data)	Historical-cost financial statements prepared under-inflation could be misleading.
2020	To Explain how financial statements are prepared in developing and transitional countries of the Republic of Serbia.	Serbia	Primary data.	No significant difference between HCA and CCA in the treatment of PPE.
2007	Compare HCA and CCA and taking Islamic Perspective into consideration	Malaysia	Primary data	No clear answer each method has its limitation and advantages
2011	Investigate the differences in impacts and correlational effects of profits measured on historical cost and current on the operating capabilities of companies.	Nigeria	ANOVA	Profit measurement has significant differential influences on the operating capabilities of the firm when it is measured at HCA or CCA
2013	Review the CCA by comparing it with HCA and the impacts it has on the financial statements such; BS, IS, and statement of cash flow	USA	Primary data.	CCA has a significant effect on the Balance sheet. CCA has a significant effect on Income statements. CCA has no significant impact on the Statement of cash flow
2018	Evaluate Fair value and Historical Cost Accounting	Romania	Primary data	Both HCA and CCA methods are important and mixed-method could be applied to solve such problems.

Equations

$Y = \alpha + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \varepsilon$ where: Y: Net profit (Dependent variable). α: Alpha (population Y intercept). β: population slop coefficient. X1: Depreciation (independent variable). X2: Inventory (independent variable). X3: COGS (independent variable). ε: Error in the equation.

III. RESEARCH DESIGN

3.1 Population and Sample

The data used for this study were collected based on the available financial statements of 14 listed food companies that have been selected out of 40 companies as a sample under the manufacturing sector from Muscat Security Market (MSM). The study relies on secondary data collected from the statements of all companies registered in the food sector for the period 2013 – 2019 (7 years). Therefore, the sample size of 7*14 will give approximately 100 outcomes.

3.2 Data and Sources of Data

The data which has been used in this research are mainly Secondary data and mixed-method has been used. This means information obtained is both qualitative and quantitative. Consumer Price Index (CPI) is used as a proxy in this study for the inflation rate. In qualitative research focuses on the respondents through records and case studies research furthermore, non-numerical data is involved in collecting and analyzing qualitative research and this helps in understanding the concept, experiences, and opinions. On the other hand, Quantitative analysis is concerned with numbers and statistical methods. Additionally, Quantitative research is characterized as a systematic analysis of phenomena through the collection of quantifiable data and the application of statistical, mathematical, or computational methods. Hence, this research is based on pure numbers and figures in addition to various explanations of the variables to help the users to differentiate between historical costing and current cost accounting.

3.3 Theoretical Framework

This is a quantitative research paper. The dependent variables under observation were the net profit of the companies. The independent variables were closing stock, cost of goods sold and deprecation, and the changes in the independent variable due to inflation.

3.4 Methodology and Tools

The secondary data financial statement has been downloaded from the Muscat Securities Market of the selected companies. The researchers have used, one-way ANOVA and Multi Regression method tests to examine the association between the dependent and the independent variables.

3.5 Research Objectives

- To study the significant difference between Historical Cost Accounting and Current Cost Accounting.
- To identify the impact of inflation on financial performance
- To examine the impact of inflation on the cost

3.6 Hypotheses of the Study

- Null Hypothesis 1 (H_{01}): There is no difference between historical cost accounting and current cost accounting.
- Null Hypothesis 2 (H_{02}): There is no significant impact of inflation on financial performance
- Null Hypothesis 3 (H_{03}): There is no significant impact of inflation on the cost
- Alternative Hypothesis 4 (H_1): There is a significant difference between historical cost accounting and current cost accounting.
- Alternative Hypothesis 5 (H1): There is a significant impact of inflation on financial performance
- Alternative Hypothesis 6 (H1): There is a significant impact of inflation on the cost

3.7 Descriptive Statistics

Descriptive Statics has been used to find the maximum, minimum, standard deviation, mean, and normal distribution of the data of all the variables of the study. Normal distribution of data shows the sensitivity of the variables towards the periodic changes and inflation.

Descriptive statistics are brief descriptive coefficients that summarize a particular data set and can be a representation of the entire population or a sample.

Table 3.1 Descriptive table (Historical cost Accounting)

	X1h	*X2h*	*X3h*	*Yh*
Mean	901836.66	18653351.32	4292409.73	2207811.55
Median	550086	8864176	2732414	474182.5
Standard Deviation	773271.1207	19327929.35	4917476.124	4185976.303
Minimum	0	0	0	-3513000
Maximum	3363405	86338000	18843866	16256000
Observation	98	98	98	98

Source: Computed data

X1h represents the Depreciation Adjustment under the historical cost accounting, X2h represents the Cost of Goods Sold and X3h represents the Inventory under HCA as well. X1h, X2h, and X3h are the independent variables that affect the Net Profit (Dependent Variable) which is represented as Yh.

Descriptive Table 3.2 (Current Cost Accounting)

	X1c	*X2c*	*X3c*	*Yc*
Mean	910504.69	24047846.91	4325930.10	2159920.90
Median	555858.865	9142984	2755491.84	468022.0875
Standard Deviation	770857.1949	57393505.73	4907685.412	4255744.835
Minimum	0	0	0	-5287000
Maximum	3383093.224	552100000	18705964.69	16306000
Observation	98	98	98	98

Source: Computed data

Similar to the HCA table, this table represents the CCA Variables:
X1c: Depreciation Adjustment under CCA X2c: Cost of Goods Sold under CCA X3c: Inventory under CCA Yc: Net Profit under CCA

Correlation table: a table that displays the correlation coefficients of various variables. It shows the correlation between all possible value pairs in the table. It is a powerful tool for summarizing large datasets and identifying patterns of specific data.

Correlation table 4.1	**(Historical cost Accounting)**			
	X1h	*X2h*	*X3h*	*yh*
X1h	1			
X2h	0.783139849	1		
X3h	0.635008123	0.868243666	1	
Yh	0.679641515	0.783331071	0.512203176	1

Source: Computed data

The relation between all the variables shown on the above table has an almost high relationship, except the relation between X3h (HCA Inventory) and the Yh (HCA net profit) is considered as a medium relationship.

Correlation table 4.2	**(Current Cost Accounting)**			
	X1c	*X2c*	*X3c*	*Yc*
X1c	1			
X2c	0.287630376	1		
X3c	0.634209061	0.518021757	1	
Yc	0.655033107	0.360459806	0.481820838	1

Source: Computed data

Despite all variables under CCA have a medium relationship with each other, the X1c (CCA Depreciation) and X2c (CCA Cost of goods sold) have a weak relation.

Table 5.1	**SUMMARY**	**ANOVA: Single Factor**				
Groups	***Count***	***Sum***	***Average***	***Variance***		
HCA	98	216365532	2207811.551	17522397609410.40		
CCA	98	209512327.6	2137880.894	17972253687283.20		
ANOVA						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	239624545687.50	1.00	239624545687.50	0.01	0.91	3.89
Within Groups	3442981175779280.00	194.00	17747325648346.80			
Total	3443220800324970.00	195.00				

Source: Computed data

the p-value is the probability used to get a piece of evidence in which to accept or reject the hypothesis. If the p-value is less than 0.05 So it is significant, while more than 0.05 p-value is considered to be not significant. In simple words the higher the p-value the stronger the evidence to accept the null hypothesis.
In this table, p-value is 0.91>0.05. this is proof that there is no significant difference between current cost Accounting and historical cost Accounting.

Regression Analysis is a statistical tool used to estimate the strength of the relationship between the dependent variable (net profit) and several independent variables (dep, COGS, and inventory).

Table 6.1 Regression Analysis (Historical Cost Accounting)

Regression Statistics	
Multiple R	0.85527263
R Square	0.731491272
Adjusted R Square	0.722921844
Standard Error	2203423.159
Observations	98

	Coefficients	*P-value*
Intercept (y)	-1020712.242	0.003962096
X1h	0.508049789	0.282766393
X2h	0.278787235	1.96179E-15
X3h	-0.566108669	2.26352E-08

Source: Computed data

R square (coefficient of determination) is a statistical measure that illustrates variance proportion for a dependent variable that is described by the independent variables.

y-Intercept: The point where the line joins the y-axis to x = 0. This is also the value that the model takes or can predict if x is 0 .

Coefficient: Providing variable influence or weight towards the whole model. In other words, it provides the amount of change in the variable depending on the unit variable in the independent variable.

In the above table, Intercept represents Alpha(α) which is the HCA net profit in our case, while the beta(β) will be the X values: X1h: HCA Depreciation. X2h: HCA COGS. X3h: HCA inventory.

Table 6.2 Regression Analysis (Current Cost Accounting)

Regression Statistics	
Multiple R	0.679238732
R Square	0.761365255
Adjusted R Square	0.744174785
Standard Error	3160606.235
Observations	98

	Coefficients	*P-value*
Intercept	-1169801.35	0.02
X1c	3.278162532	0.00
X2c	0.013717495	0.04
X3c	0.006269976	0.00

Source: Computed data

Intercept: CCA net profit. X1c: CCA depreciation. X2c: CCA COGS. X3c: CCA Inventory.
The calculation shows that there is a significant difference as a result, p-values are less than 0.05.

Table 7.1 Regression Analysis (cost) Historical cost Accounting

Regression Statistics	
Multiple R	0.955861208
R Square	0.91367065
Adjusted R Square	0.91185319
Standard Error	4506526.158
Observations	98

	Coefficients	*P-value*
Intercept	-391581.4491	0.52
X1h	11.8105	0.00
X2h	1.6167	0.00

Source: Computed data

In this table, Intercept represents the cost (Alpha) and X values (Beta):
X1h: HCA depreciation. X2h: HCA inventory.

Table 7.2 Regression Analysis (cost) (current cost Accounting)

Regression Statistics	
Multiple R	0.955657496
R Square	0.913281249
Adjusted R Square	0.911436169
Standard Error	4523828.034
Observations	98

	Coefficients	*P-value*
Intercept	-333344.6687	0.59
X1c dep	11.8114	0.00
X2c inv	1.6252	0.00

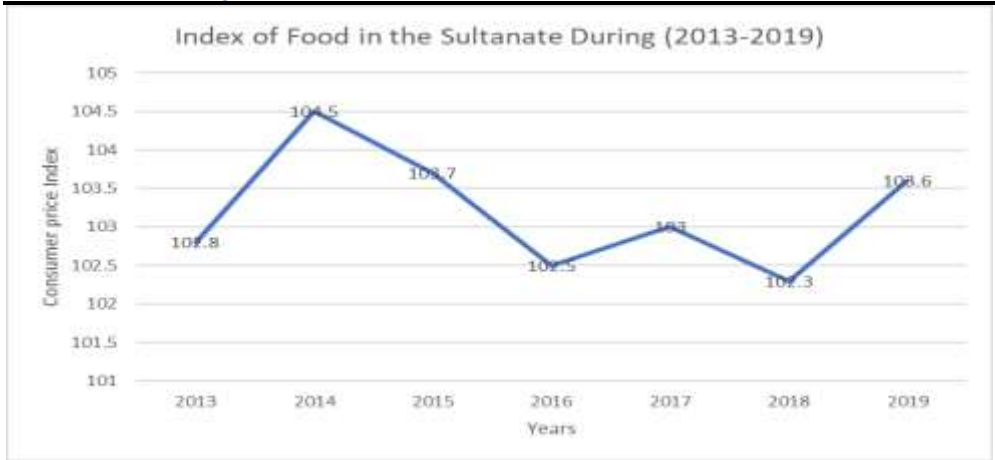
Source: Computed data

Intercept: CCA Cost.
X1c: CCA depreciation. X2c: CCA Inventory.
p-values are < 0.05, therefore, it is statistically significant, which means we will accept the alternative hypotheses and reject the null.

4.1 Results of Descriptive Statics of Study Variables

IV. Results and Analysis

ANOVA takes the average of Historical cost accounting and compares it to an average of current cost accounting, to test whether there is a significant difference between the two methods or not. According to our research analysis, we found that there is no statistically significant difference between historical cost accounting and current cost accounting in the food manufacturing sector in the Sultanate of Oman during the years (2013-2019). Statistically, (table 3) proves that there is no significant difference between the HCA and CCA model as the p-value is 0.91 which is more than the level of significance (0.05). Moreover, there is no enough evidence to support the null hypothesis as the difference between HCA profit and CCA profit is not significant and the reason behind this is because the inflation in Oman under the food sector slightly fluctuates from one year to another (the line graph below shows the movements of CPI during the years to support the concept). The food sector in Oman is regulated by the government, this could be the reason why inflation cannot increase very high over the years.



Source: Computed data

Finding 2:
From table 4 (b), (regression analysis based on current cost accounting), we found that:
Intercept P-value = 0.02 > 0.05
x1c (CCA Dep) = 0.00 <.0.05
x2c (CCA COGS) = 0.00 <.0.05
x1c (CCA Inventory) = 0.00 <.0.05
all independent variables have a p-value < 0.05 which exactly proves that inflation has a significant impact on financial performance. After converting Historical Cost Accounting into Current Cost accounting by considering inflation, the independent variables have changed and the p-value result proof that the changes happened affect the dependent variable (Net profit) which means taking inflation into consideration changes the financial performance.

Finding 3:
From table 5(b), (regression analysis based on current cost accounting considering cost as Y (Alpha) to check the effect of cost in performance we found that:

P-value shows a positive significant relationship
X1c: CCA depreciation 0.00<0.05 X2c: CCA Inventory 0.00<0.05.
therefore, this proves that inflation has a significant impact on cost.

In coefficients, we found that when inventory increase, cost increases as well. Same for depreciation when it rises cost to rise. this shows that there is a (positive relationship) between the variables.

Summary of Findings and hypotheses:

Finding 1: Answers the research question 1: How significant Historical Cost Accounting differ from Current Cost Accounting? No, there is no significant difference. p-value > 0.05 Accept H0: there is no difference between historical cost accounting and current cost accounting.
Finding 2: Answers research question 2: What is the impact of inflation on financial performance? Yes, there is a significant Impact p-value < 0.05 Reject H0 à Accept H1:inflation has a significant impact on financial performance.
Finding 3: Answers research question 3: What is the impact of inflation on cost? Yes, there is a significant Impact. p-value < 0.05 Reject H0 à Accept H1: inflation has a significant impact on cost.

- R square telling us whether this model is good or not, it tells that changes in X are explaining and reflecting changes in Y. in our study we found that R square based on net profit is 76% and R square based on cost is 91% of changes in X will be Show changes in Y, therefore, we have a good model.

- According to **Frank. (2019)** the research was shown that the reported profit using CCA prices was much lower than that of the HCA and most of the firms unknowingly operated at a loss (significant difference). In our paper results have changed due to changes in the values of the variables after converting from HCA to CCA but these changes are not significant and do not affect the view of the firms' performance.

- Comparing our study to a previous study done by S. A. Effiong. (2011) in Nigeria, and according to its finding; after applying the Regression analysis, the reported profit appeared with a negative sign, which approved the hypothesis which state, there is a significant effect between report profit and depreciation under the current cost accounting, the increase in the depreciation variable will lead to a decrease in net profit. comparing to our findings, his findings match our result, where; there is a significant difference in the current cost accounting when it comes to depreciation and profit, and the reason behind that is the rate of inflation in these countries, where the inflation in Nigeria and Oman has the same nature in changing over the years, it doesn't increase very high.

- In a more theoretical way, and comparing to Penman. (2007) research, historical cost accounting is based on actual transactions, and its concept is to give monetary information about items of the financial statement but does not reflect the change in values or any other factors like inflation. In our research, we found out that the dependent variable can be affected by the independent variables, but not in all the cases, and there is no doubt about the true and fair view that the historical cost accounting present.

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