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“Knowledge is the only instrument of production that is not subject to diminishing returns.”

- John Maurice Clark (1923)

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Dear Executive:

One day last week I was patiently waiting at a traffic light chatting with my wife and daughter when my car was rear-ended by a distracted driver. Fortunately, my old Chrysler Pacifica was “a tank” and no one in my vehicle was injured badly. Unfortunately, the Pacifica was deemed to be a total loss. The distracted driver wasn’t so lucky; he was hustled off to the hospital. The experience, however, must have had some psychological effect on me because I’m not in my usual “ranting mood” as I sit down to write this quarter’s executive letter. In this temporary mellow state, I thought I’d use this quarter’s letter to share my perspective on the history of management accounting and how it got to the state it is in today. My perspective is based on the countless odds and ends of information I’ve picked up during the thirty plus years I’ve been obsessed with these issues, not on any primary research I’ve done personally. I’m simply presenting my “take on things” without any formal references or citations – I don’t remember the source of most of the information anyway.

I see management accounting as the melding of four different disciplines: accounting/cost accounting, industrial engineering, managerial/decision economics and behavioral science. Accounting/cost accounting provides the structure used to both project costs and assign costs to cost objectives; industrial engineering provides insight into the way an organization’s work is done; managerial/decision economics provides the means for measuring costs and determining what costs are relevant for the action or decision at hand; and behavioral science provides the insight needed so that management accounting information will actually be able to influence an organization’s decision makers.

Accounting/Cost Accounting

Figure 1 shows the chronological convergence of the four disciplines into today’s management accounting. It begins back around 3000 BCE in Egypt, India and the Middle East where evidence of accounting and cost accounting first appears. In Egypt, the Pharaoh’s accountants were required to prepare a detailed report each year calculating the net cost of the harvest. This was done to enable the Pharaoh to determine the taxes to be levied on that harvest. In India, there existed laws that made the periodic auditing of trade profits by independent auditors mandatory. In the Middle East, Books II and III of the Sacred Laws included the following two passages:

“Merchandising experts will establish the sales price of goods, so that the king may levy 1/20 of the profit thereon”

“The sales price of merchandise shall be evaluated according to the distance it has travelled, the time it is kept in storage, the expenses connected with it, the time it has to travel to reach its final destination, and the profit that can be anticipated'.”

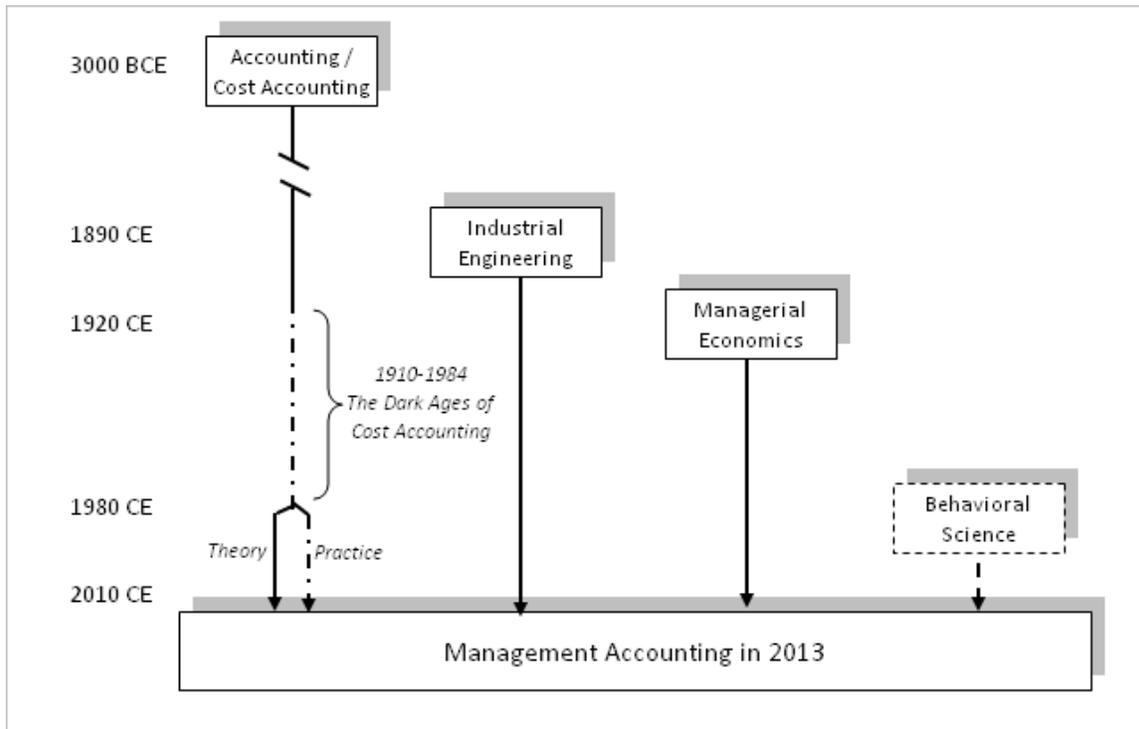


Figure 1 – The Development of Management Accounting

Somewhat surprisingly, that last passage sounds much more sophisticated than the logic behind most of today’s costing models. Based on the intelligence such ancient people exhibited through their engineering prowess and their ability to administer vast empires in an age where communication was about as fast as a man can run, I would have to believe that there are many more examples of pretty sophisticated accounting and cost accounting that lay buried in yet-to-be-discovered archeological sites.

Not much appears to have been added to management accounting until the 1300s when an age of “industrial accounting” emerged. Since early industries consisted primarily of individuals manually converting purchased materials into salable goods without the need for much “overhead,” industrial accounting’s objective was to accurately trace “prime costs” (direct labor and direct materials) to their cost objectives.

1494 is generally considered one of the most important milestone years in the history of accounting. That’s the year when Luca Pacioli published *Summa de arithmetica, geometria, proportioni et proportionalità*, a work that dealt with Hindu-Arabic arithmetic and its offshoot, algebra, and contained his 27-page treatise on Venetian accounting describing double-entry bookkeeping. Although many believe that the double-entry method was being used in Venice for at least two centuries before Pacioli’s work, his is the first known written document describing the practice.

We then move forward to 1772, a year in which depression struck Europe and manufacturers were threatened with reduced demand and rising costs. Not only that, but Josiah

Wedgwood – English potter, founder of Wedgwood Company and grandfather of Charles Darwin – found that his clerks were stealing money from him. After replacing his clerks and examining his books closely, Wedgwood began to analyze how various costs contributed to various stages of pottery manufacturing. *Overhead costs* were analyzed and then each cost or portion of a cost was traced to the production of specific products. In short, he became an expert at understanding how *every cost contributed to the production of every piece of pottery* his company made. It certainly appears as if old Josiah invented modern cost accounting.

Important developments in cost accounting took place as the industrial revolution began in the 19th century. The establishment of large factories and mass production in the US, UK and the rest of Europe required that systematic costing methods be implemented. Of particular importance were developments in cotton, textile, iron, steel, metal working and railroading. The assignment of the growing pool of overhead cost on the basis of prime cost or direct labor (with prime cost being the most common) emerged and the establishment of cost centers with cost assignment based on routed steps made its first appearance.

In the 1860s, Albert Fink – a German-born civil engineer who worked in the United States – invented Activity-Based Costing as a means of tracing and assigning costs in the railroad industry. He didn't call it Activity-Based Costing, but consider his methodology. Fink divided costs into four categories: Maintenance and overhead that did not vary with the volume of traffic; Station personnel expenses that varied only with volume of freight; Fuel and other operating expenses which varied with the number of train miles run; Fixed charges for interest. He evaluated operating expenses of each subunit by using cost per ton/mile. With the formulae he worked out to convert costs in each category to a ton/mile basis, he monitored costs per ton/mile for the entire railroad and determined the reasons for cost differences among the subunits. That sure sounds like ABC to me.

Enter Industrial Engineering

Industrial engineering begins its influence on management accounting in the 1890s as Fredrick Winslow Taylor developed his concept of “scientific management.” Back in the mid-1970s, Peter Drucker said that, “Taylor was the first man in recorded history who deemed work deserving of systematic observation and study. On Taylor's 'scientific management' rests, above all, the tremendous surge of affluence in the last seventy-five years which has lifted the working masses in the developed countries well above any level recorded before, even for the well-to-do. Taylor laid only first foundations, however. Not much has been added to them since – even though he has been dead all of sixty years.”

Taylor's more systematic view of work led other industrial engineers to link work measurement to its costs. One of the most prominent was British engineer Alexander Hamilton Church – a man who believed that all accountants were fools – who is best known for his development of “scientific machine rates” for assigning the cost of manufacturing. Much of this was incorporated into his book *"The Proper Distribution of Expense Burden"* published in 1908.

The “Dark Age” of Cost Accounting

Around 1910 the rapid progress that cost accounting had experienced in the previous 130 years suddenly came to a screeching halt and cost accounting entered a “dark age.” From some perspectives, costing practices actually regressed during this period. The usage of cost accounting expanded, but the concepts and methods used were frozen for the next three-quarters of a century. This may have occurred because collecting and processing the cost and other operating information required to support more advanced costing methods was just too difficult

and expensive for the widening range of products being produced thereby making it difficult to justify cost accounting's benefits. In its place, there appeared various simplified costing procedures that 20th Century accountants adopted to measure the cost of inventories (and cost of goods sold) for financial reports. Since its main purpose was now to support financial accounting, custody for cost accounting was given to the financial accountants who, like the foolish servant in the biblical Parable of the Talents, "buried it in the earth" – a place where they've let it remain ever since. While this kind of cost information was reliable for evaluating cost of inventories and financial reporting, it was irrelevant and even misleading for decision making needs, particularly for strategic product decisions. Other possible causes for the suspension in cost accounting's development were the lack of advancement in decision science - there was little or no demand for better cost or management accounting information - and the Western world's lack of competition for the major goods and services it provided.

World War I led to the advent of "cost plus" government contracts. The need to monitor and control the cost of these contracts led to the formalization – but not improvement – of cost accounting practices. In 1919, Major J. Lee Nicholson – a cost accounting consultant who had led this formalization effort as a Major in the U. S. Army's Ordinance Department – founded the NACA – National Association of Cost Accountants (now known as the IMA – Institute of Management Accountants). Its stated *raison d'être*, however, was not the advancement of cost accounting practices but "spreading the science of cost accounting."

Enter Managerial Economics

This suspension in the advance of cost accounting did not, however, totally stop the advance of management accounting. Economists began to show interest in applying microeconomic analysis to decision methods used in businesses – a field christened "managerial economics." Broadly defined, managerial economics is the application of economic concepts and economic analysis to the problems of formulating rational managerial decisions. One of the first to contribute was John Maurice Clark.

In 1923 Clark published "*Studies in the Economics of Overhead Costs*" In his book, Clark discussed fixed and variable costs; joint, sunk, differential and residual costs; short and long run fluctuations; and a number of other issues from the economist's point of view. He also advocated that different costs should be used for different purposes, i.e., the cost information used for decision making should be different from that of financial requirements. This book is considered by most researchers and historians as one of the major contributions to cost accounting literature, but it was pretty much ignored for the next 60 years. About ten years ago, my old friend Mo Bayou of the University of Michigan – Dearborn introduced me to Clark's work causing me to add an 80-year-old copy of *Studies* to my library of historical accounting books. I've included some key excerpts from the book as an attachment to this letter.

In the 1920s, DuPont Corporation was at the forefront in creating and using new managerial economic concepts. In 1924, Donald Brown of DuPont was appointed by Pierre DuPont as General Motors Corporation's Vice President of Finance where he introduced the concepts of Return on Investment, Return on Equity, flexible budgeting and financial forecasting.

The field of managerial economics continued its contributions to management accounting in the 1950s when economist Joel Dean introduced the use of Net Present Value, Discounted Cash Flow and Internal Rate of Return into the capital budgeting and project evaluation arena.

Throughout the first half of the 21st Century, college cost accounting texts emphasized the use of cost accounting for internal and external financial reporting. Then, in the 1960s, Charles Horngren published the first text that melded many of the managerial economics

concepts with the half-century old cost accounting concepts to create a cost accounting text with “a managerial emphasis.” The text emphasized the use of cost information for operational planning and control as well as for decision support.

In 1979, managerial economist Alfred Oxenfeldt publishes “Cost-Benefit Analysis for Decision Making,” a book that debunks the apparent “plain common sense” resulting from the use accounting information in decision making and emphasizes the importance of valid economic models in the decision making process. Few, if any, accountants paid any attention.

Breakthroughs in the field of information technology during the 1980s began to eliminate many of the obstacles that thwarted the development of cost accounting earlier in the century. Unfortunately, accountants only used the new technology to implement the obsolete concepts from 1910 more efficiently.

The End of The Dark Ages for Cost Accounting Theory

Two events took place in 1984 that caught the attention of the more thoughtful members of the management accounting community. Eli Goldratt (of Theory of Constraints fame and co-author of “The Goal”) made a presentation at the National Association of Accountants (formerly the NACA and now the IMA) Annual Conference explaining why “cost accounting is the number one enemy of productivity.” That same year, Robert Kaplan of Harvard published an article in the *Harvard Business Review* that explained how “Yesterday’s Accounting Undermines Production.” These events set off a firestorm of activity among academics and consultants who were determined to find a way to resuscitate the comatose field of cost accounting and make it more compatible with the ever more complex and competitive business environment of the late 20th Century.

In 1987, Kaplan and his Harvard colleague Robin Cooper introduced a new paradigm of cause-and-effect cost modeling – a revival of Albert Fink’s ideas from the 1860s – and christened it “Activity-Based Costing” or simply ABC.

Management Accounting Since 1987

Since Kaplan and Cooper’s introduction of ABC, everyone and their brother (and sister) has developed a new, single-perspective, one-solution-for-all costing methodology (often represented by a three-letter acronym) that totally ignores Clark’s “different costs for different purposes” dictum and causes more confusion and clutter in an arena where clarity is a requirement if businesses are to remain competitive and financially successful. They all appear to emanate from the perspective of a blind man touching an elephant once and then announcing he knows exactly what an entire elephant looks like and how it works.

Due in part to this clutter and confusion, the practice of management accounting has not kept pace with the theory of management accounting. Management accounting practice remains in The Dark Ages. In 2003 the IMA and Ernst & Young published the results of a survey indicating that 98% of senior financial executives believed that the cost information they provided management for decision making was inaccurate with less than 20% indicating that they even planned on doing something about it. There has been little evidence since then that the situation has improved.

Another major factor appears to be the lack of management’s demand for better cost information – decision makers appear to either be oblivious to the fact that they are basing their decisions on inaccurate and/or irrelevant cost information or they are so busy “playing

Scheherazade” and just trying to keep their jobs until tomorrow that they don’t care about the long-term financial success of their organizations. If the reason is the former, it’s a sad reflection on the effectiveness of management accountants and their ability to influence business decisions. If it’s the latter, it’s a sad reflection on the state of management in today’s business environment.

Enter Behavioral Science

The fourth discipline in management accounting – behavioral science – is just beginning to get some attention in the management accounting community. A 2013 survey by EPM Channel highlighted how non-financial executives view financial personnel at their organizations. Among the opinions expressed by non-accountant survey participants were:

“Finance spends too much time on mechanics and data gathering and not enough on analysis”

“Finance does not communicate well.”

“Finance does not try to develop an understanding of the underlying business.”

“There is a lack of trust between finance and the rest of the organization.”

While 50% of those in finance believed they provide “game changing value,” only 15% of non-financial executives agreed. 40% of non-financial executives viewed finance as “bean counters” and not “partners in the business.”

The top four areas for improving finance’s performance suggested by these non-financial executives related to finance’s ability to 1) exert influence in areas where they have no authority, 2) visualize and present data in an interesting and understandable form, 3) think strategically, not just create strategic plans based on others’ input, and 4) build effective relationships with its internal clients. Two of these four relate to interpersonal relationships – not technical prowess – an arena addressed by the behavioral sciences. Without addressing these interpersonal issues, management accounting will undoubtedly remain “stuck on a treadmill of its own making” and continue to be an underperforming activity in a vast majority of organizations.

A View from the 1960s

In preparing a course Gary Cokins and I are developing on “21st Century Management Accounting” for IA Seminars, I recently flipped through a 50-year old text in my library of historical accounting books titled “*Accounting for Management*” authored by Robert M. Lynch & Robert W. Williamson of Notre Dame University. Lynch and Williamson wound up the books’ introductory chapter with these remarks (the emphasis in the quote is mine):

“Herein lies the challenge to the management accountant:

- 1) To establish systems of information and control within the business organization.*
- 2) To provide relevant information for **all functions and levels of management** within the organizations.*
- 3) **To master existing techniques of analysis and develop new, improved methods which will narrow still further the boundaries of uncertainty in management decision making.***

For this process to be successful, two other conditions are essential:

- 1) **The management accountant must strive constantly to increase his or her own insight into management problems.***

- 2) *The manager must strive to understand the uses of the management accountant's analysis in informing and improving management decisions."*

How well do you think we've done in these areas since 1960?

I hope you've all had a great summer and the autumn will bring you personal and financial success. As always, I look forward to hearing from any of you who have questions or comments regarding this quarter's letter and you should feel free to forward a copy to anyone you believe might be interested (or at least mildly amused).

Very truly yours,

Doug

Douglas T. Hicks, CPA
President

Excerpts from...

Clark, John Maurice, *Studies in the Economics of Overhead Costs*, The University of Chicago Press, Chicago, Illinois, 1923

The Nature of "Direct" Labor

"Yet the substitution of machine for hand labor meant nothing less than the introduction of a new species of creature, which rapidly became the dominant personality in industry, especially in the actual physical work of manufacture and transportation. Formerly the laborer was the central figure; he worked according to the laws of his being and his tools worked as he required their services. Now the machine is the central figure, and labor follows the laws of the machine's being and works as it requires his services." p. 7

"...the fact that human labor comes to be more and more a matter of overseeing and guiding the iron slave; the laborer has in fact become a supervisor. But the work of supervision is commonly spoken of as an 'overhead cost.'" p. 77

Different Costs for Different Needs

"Most of this controversy will disappear if we carry our study far enough to recognize that there are different kinds of problems for which we need information about costs, and that the particular information we need differs from one problem to another." p. 35

"We may start with the general proposition that the terminology of costs is in a state of much confusion and that it is impossible to solve this confusion by discovering and adopting the one correct usage, because there is no one correct usage, usage being governed by the varying needs of varying business situations and problems." p. 175

"As a result, if cost accounting set out, determined to discover what the cost of everything is and convinced in advance that there is one figure which can be found and which will furnish exactly the information which is desired for every possible purpose, it will necessarily fail, because there is no such figure." p. 235

Fixed vs. Variable Costs

"In gauging the effect of added business on cost, it makes a great difference whether we are considering a long-run or a short-run policy. The wages and salaries of the indispensable nucleus of the force are sunk cost which practically cannot be avoided, with reference to a short period. But with reference to a long period they would be a variable cost. Evidently time alters the definition of costs. In fact, the way in which costs behave in response to a 20 percent increase in business is one thing if we have to deal with a 20 percent increase in the output of a current month or three months, and a very different thing if we are talking about a permanent increase of 20 percent in the total business, so that our ups and downs, our good years and our bad years, would all be on a scale 20 percent larger than before." pp. 43-4

"No one formula could be made by an accountant which would distinguish between constant and variable expenses in such a fashion that it could be used to get the correct solution to every one of these different problems." p. 183

Non-Manufacturing Costs

“If economics has paid insufficient attention to overhead costs of production, it has definitely ignored the costs and services of selling goods, in formulating the formal laws of value.” p. 60

There is Not One Simple Answer

“To be more specific, the problems of overhead costs are, above all things else, not fool-proof. The student cannot be given a formula which will furnish an absolute answer to every question. He must use the highest grade of discriminating judgment if he is to distinguish case from case and to determine which rule applies or which policy is the most promising of results. The parrot which has been trained to repeat: ‘supply and demand’ can no longer qualify as a competent economist nor even a fair caricature.” pp. 480-1