

MEASURING COSTS IN THE SERVICE INDUSTRIES:  
NEW CHALLENGES IN A CHANGING ECONOMY

An Honors Thesis (ID 499)

by

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A handwritten signature in cursive script, reading "James P. Barnhart", is written over a horizontal line.

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## INTRODUCTION

Today the United States is moving from an industrial economy to a service economy. Four out of every five new jobs created presently are service jobs, and services now account for almost 70% of the Gross National Product.<sup>1</sup> Some examples of the many services are transportation, communication, utilities, retail and wholesale trade, law, medicine, education, entertainment, banking, insurance, advertising, and accounting.

The shift from manufacturing to services has explosive economic and social implications for the future. This movement is causing much concern to people both in and out of the government. The growth of the service economy is causing more unemployment and low-paying jobs, according to economist Barry Bluestone.<sup>2</sup> How we plan for it is extremely important, and Congress has responded by holding hearings on the matter. The President and some politicians have been trying to preserve high-paying manufacturing jobs as the service industry grows. Other politicians feel that the government should not resist the change, but should help workers adapt to it.

## ENTRY INTO THE SERVICE SECTOR

Although manufacturers are reluctant to enter the service sector, once they have done so, "they can find growth, profit, and even happiness - particularly as expansion in mature manufacturing areas becomes harder to

achieve." <sup>3</sup>

Entry is not as difficult as some companies believe. Usually it is just putting to work the assets, resources, and knowledge they already have. Most manufacturers have had some experience with services because they have been providing them free for years as part of their sales or to improve customer relations.

According to Irving D. Canton, there are many different ways to enter into the service sector, as seen in the following paragraphs. <sup>4</sup> One way is to go into the financial field. Any company whose customers have to borrow money from a financial institution to buy its products could consider establishing a credit subsidiary. This is a proven way of deriving added profits, and one that has been used by some firms for years. General Motors is an example of one company that has done this. It finances dealer inventories, and allows its customers to receive installment loans entirely through the GMAC subsidiary.

Another opportunity for firms to capitalize on the services economy is for a company to take over a service from the public sector. Any company that manufactures products that are used in a government service may be able to come up with some cost-saving ways to provide the service itself. Control Data provides an example of a company that has done this successfully. It is involved in training the disadvantaged, conducting international barter, operating educational and small business programs, and financing cars for former prison inmates. The company firmly believes that

"every unmet need of society is a potential business opportunity and that corporations, not government, should take the lead in finding new ways to solve unemployment, run public schools and prisons, and redevelop inner cities." 5

Many manufacturing companies could consider opening a national service chain to repair their own products. Also, some companies might enhance profits by offering contract management and shared services. For example, many data processing systems suppliers realized that their customers could not operate the systems properly, so they began to offer management contracts to equip, staff, and manage the customers' systems.

Companies that have underused capacity in any of their operations could explore the possibility of furnishing services to other companies, as is illustrated by Kimberly-Clark. The firm began operating a fleet of corporate aircraft many years ago. These aircraft required a maintenance staff which kept growing in size and proficiency, so Kimberly-Clark decided to offer its services to other corporate plane owners. Now it is one of the leading companies in the maintenance of corporate aircraft.

A company that provides free service with the purchase of its product could consider marketing the service separately, as Sears does with its maintenance contracts on appliances.

The above illustrations are just a few of the many ways to enter the service sector. Long range planners of

manufacturing companies should carefully identify and examine the many opportunities available in the service sector to enhance profits by expanding in that direction.

#### THE PROBLEM OF MEASURING COSTS

Service innovation and increased competition have made it extremely important that providers of services have an accounting system that allows them to measure costs accurately and quickly. Unfortunately, many service organizations typically have had either no cost system or one that is very inadequate. One of the problems has been that firms in service industries have tried to use the wrong accounting tool in measuring costs. They have tried using the manufacturer's cost system, which is designed for a different type of operation.

In manufacturing industries, product cost information has four main uses: (1) inventory valuation, (2) cost control, (3) short term planning, and (4) product profitability analysis.<sup>6</sup> The techniques used to develop information regarding the first three do not provide relevant information to service organization managers, as illustrated in the following paragraphs.

##### Inventory Valuation

In traditional product costing, the costs have to be separated into period and product costs for the purpose of inventory valuation. Product costs are costs that directly or indirectly change the physical form of the product and are accumulated as inventory. All other costs are treated as

period costs. In a service industry, all costs are period costs because there are no inventories to be valued. Therefore, traditional product costing techniques do not apply when trying to determine the cost of a service.

#### Manufacturing Cost Control

For controlling manufacturing costs, standard costs are used mostly to control direct material and direct labor, elements found only sparingly in service industries. Most of the costs incurred in a service organization would be classified as overhead in a standard cost system. Overhead can be better controlled by using traditional budget procedures than a standard cost system; hence a standard cost system has limited applicability in a service industry.

#### Short Term Planning

Cost accounting information is used to estimate the financial impact of managerial decisions that affect the volume of sales in the short run.<sup>7</sup> In order to calculate the financial impact, the accountant must know which costs vary with production. In manufacturing, the majority of costs, 60 to 90 per cent, are variable costs. In the service industry, however, variable costs are typically only a small portion of total costs. Therefore, to divide a service organization's costs between variable costs and fixed costs would be of limited benefit.

The above illustrations demonstrate that standard costing techniques used in short term planning, cost control, and inventory valuation are virtually worthless in the service industries.

## MATCHING COSTS AND REVENUES

Instead of trying to adapt the standard costing techniques to a service industry, we should design a cost system that is tailored to the industry. If properly designed, the system should be able to determine the profitability of each individual service. To be able to do this, we must be able to assign the relevant costs and revenues to each type of service offered.

The only costs that are relevant in analyzing profitability are those that can be uniquely attributed to the production and sale of the particular service.<sup>8</sup> All other costs are called joint costs. Unique costs are defined as costs that could be eliminated if the service was eliminated. Joint costs are not assigned to the service, as they remain unchanged whether or not the product is produced and sold.

The technique used to separate these costs is described by John Deardon in the September 1978 issue of Harvard Business Review. "You start from the broadest definition of a product line and separate the unique costs from the joint costs for the product line, and then subdivide the product line into product groups, repeating the process down to the smallest unit of service available."

After the profitability of different services has been determined, they must be ranked. One way to rank them is by return on investment. To do this, the accountant must divide the profit by the investment for each service and rank them

in order of high to low. The investment is defined as the amount that is uniquely attributable to the product. Another way to rank them is by profit in excess of the cost of interest. In this method, the accountant would calculate the investment and multiply it by the company's marginal borrowing rate. The last ranking method is called absolute profitability. For this method, the services should be ranked in order of their total contribution to profits. These methods may be time consuming, but the information obtained is extremely valuable.

#### MEASURING COSTS IN THE BANKING INDUSTRY

One of the most pervasive services in our society is banking. In recent years, the banking industry has been pressured to design accounting systems to determine the profitability of each service; e.g. checking accounts, installment loans, certificate of deposits, etc. Many factors are causing the pressure, like shrinking profit margins, expansion of service, changes in customer needs and perceptions, the requirements of regulatory agencies, and increased competition among banks and from outside the traditional banking community.<sup>9</sup>

Banks have always had trouble using product-costing techniques. One reason is because banks have traditionally charged a set cash fee for some services. Checking account service was usually free, as long as a deposit remained at a certain level. In some NOW accounts, the bank paid interest when the average balance or lowest monthly balance was above

some prescribed minimum. Cost accountants agree that the way to match costs and revenues is to determine the cost of the service and the revenue coming from the deposit.

Banks have also had trouble measuring the amount of effort required to provide a service. Usually an employee is involved in providing many services, not just one. Another complication arises when a customer has many different types of accounts. It becomes very difficult to measure the cost of providing one service independently of all others, and determining how much revenue comes from each individual account.

The concept of responsibility accounting has proven to be a valuable guide for many banks in recent times in structuring an accounting system which provides relevant and reliable information. One writer states, "The principles of responsibility accounting are met if determination of profitability matches revenues with those costs over which control is exercised."<sup>10</sup> The information obtained from responsibility accounting helps the bank management predict revenues, costs, and the volume of deposits and loans to expect from a service or territory.

Determination of specific service costs under a responsibility accounting system, whether for banks or other service industries, necessitates an identification of direct and indirect costs. Some examples of direct costs are interest costs, computer operation costs and employee wages. Indirect costs must be further divided into service

department costs like printing, personnel training, purchasing and mail processing; some general bank overhead costs are advertising, top management salaries and directors' fees. Recognizing the direct costs as controllable is central to the idea of responsibility accounting; determining the full costs of services for profit analysis or for pricing new services necessitates a cost structure based on direct costs of a service plus the allocation of indirect costs determined on some logical basis.

#### MANAGEMENT ACCOUNTANT'S ROLE

Management accountants must play a central role in designing and operating the systems used to determine revenues and costs in service industries. They must also have a crucial part in "data definition, registration, processing, analysis, and reporting." <sup>11</sup> Service management accountants must take an active role in the decision-making process where commercial services are involved, such as introducing a new service or service contract, a new branch, a new line of business or a new market segment.

An effective tool to assist the accountant's decision-making process is called an expert system, a computerized consultant. Expert systems ask a series of questions and use reasoning and decision-making processes of human experts to analyze answers and make recommendations. <sup>12</sup> The system would probably even be able to tell you how it came up with the recommendations. To solve the problems, the expert systems use a knowledge base and heuristics. Heuristics is a

method of decision-making that uses a set of rules of judgement and logic, past experience, inductive inference, and intuition.<sup>13</sup> To be effective in designing the expert systems, management accountants must be familiar with current technology concerning the processing, controlling and use of information. The expert systems can also be used to train and educate new management accountants.

In whatever service business context the management accountant finds himself, his role as a supplier of relevant information takes on a new importance. It is imperative not only that the accountant know his "craft", but that he is able to communicate relevant information to managers who may be operating in unfamiliar territory. To this end, the accountant becomes a teacher and a "silent partner" in the decision-making process.

#### CONCLUSION

As the economy changes from a manufacturing economy to a service economy, there are many new challenges. Manufacturers are being challenged to enter the service industry; government is being challenged to regulate it; and accountants are being challenged to measure the costs. As accountants, we must accept this challenge and take a major role in designing and utilizing systems which will measure costs meaningfully to determine the profitability of each service.

ENDNOTES

<sup>1</sup>H. Erich Heinemann, "Why Not Have a Service Economy?," Dun's Business Month, April 1985, p.64.

<sup>2</sup>Ibid.

<sup>3</sup>Irving D. Canton, "Learning to Love the Service Economy," Harvard Business Review, v.62, May-June 1984, p.89.

<sup>4</sup>Ibid, pp.90-97.

<sup>5</sup>Ibid, p.96.

<sup>6</sup>John Deardon, "Cost Accounting Comes to Service Industries," Harvard Business Review, September-October 1978, p.133.

<sup>7</sup>Ibid, p.134.

<sup>8</sup>Ibid, p.136.

<sup>9</sup>Susan Alou and Roger A. Roemmich, "Responsibility Accounting for Banks," Management Accounting, May 1977, p.35.

<sup>10</sup>Ibid, p.36.

<sup>11</sup>D. Jordan, "Accountant's Role in Management of Service Industries", Accountancy, March 1986, p.109.

<sup>12</sup>Michael D. Akers et al., "Expert Systems for Management Accountants," Management Accounting, March 1986, p. 30.

<sup>13</sup>Ibid, p.31.

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