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## The Importance of Cost Accounting

Cost accounting is an essential component in managing a company as it is used by managers to provide internal decision-makers with the financial data needed to help prepare budgets, control costs, measure productivity, and improve production processes. Managers often perform a cost analysis of products and services, which include variable and fixed costs, and direct or indirect costs. Many different cost accounting methods are used for profitability analysis and budget preparation, one of which is the activity-based costing (ABC) (Miller-Nobles, Mattison, & Matsumura, 2018). Many large manufacturing companies and online stores use the ABC method to find the total cost of activities necessary to make or sell a product and to help them price their products or services accurately.

Online shopping has become a trend and consumers all over the world flock to the internet to make purchases. Amazon, Inc., one of the most popular online stores, is an American multinational technology company founded in 1994 by Jeff Bezos (Dolan, 2019). Amazon first started as a bookseller then expanded to selling different retail products including electronics, jewelry, furniture, home appliances, and even household items like food and toiletries. However, Amazon does not manufacture these products, instead, they play a role as the middleman and provides the platform to the manufacturers to sell their goods online and to hold inventory in their warehouses. The manufacturers decide the pricing of the products and Amazon adds a percentage in commission to the price.

Amazon determines the commission amount by the target profit and potential costs, which may include:

- Warehouse rent (fixed)
- Salary (fixed)
- Delivery trucks (fixed)
- Truck repairs and maintenance (variable)
- Utilities (variable)
- Shipping (variable)
- Packaging supplies (variable)
- Product returns and exchanges (variable)
- Advertising (variable)
- Marketing (variable)

There are many products available on Amazon, but electronics and big furniture items have the largest contribution margin per incremental unit sold because they can earn a higher commission amount since they are priced higher than other products. In addition, Amazon's fixed and variable costs remain the same since they do not manufacture any products and they are not responsible for any repairs or warranties. Amazon's standard costs are direct labor and direct materials. These costs are estimated based on volume to determine materials needed to package and ship products and how many employees are needed at a given time. Amazon may estimate a higher amount for salary and shipping materials during Christmas seasons and less during other times.

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Activity-based costing is an accounting method where costs are divided based on activities and mostly used in manufacturing companies. ABC method first assigns costs to activities that are a result of an actual overhead then it assigns those activities to the products that demand those activities (Averkamp, 2019). One of the benefits of ABC is that it gives a more accurate cost per unit because the amount of overhead and indirect costs is calculated into each particular product or activity. Another benefit of the ABC method is it allows the indirect costs to be traced to certain products and it raises the unit cost of low-volume products because ABC transfers overhead costs from high-volume products (Kenton, 2019). The disadvantages of the ABC method include the use of time because the collection and preparation of data are time-consuming, and when overhead is under-utilized, it will result in a higher cost per unit. The ABC method can become a universally applicable costing method because, although it is time-consuming, cost analysis on products is more reliable and more accurate, and it can help enhance productivity and reduction of costs.

Municipal governments are introducing many non-financial performance measures to help improve municipal services. The City of Phoenix, for example, measures their performance by doing one-on-one interviews and form focus groups to find out what is more important to citizens about services provided. The results from interviews and focus groups are used to acquire buy-ins from different department management on the usefulness of each service. Benchmarking is another type of measure that the City of Phoenix uses. A City Council-approved list of comparative cities, similar in size, structure, or programs, was developed by the Budget and Research Department. A department usually starts by calling other approved cities to find out how they are performing in particular areas; water services have compared their rates to other cities for many years. The City of Phoenix found that the key to having a useful measurement is that it needs to measure what is important to the citizens. (Artrip, 2004)

Cost accounting is also helpful when determining personal investment analysis. The cost of a Bachelor's degree in accounting from Arizona State University is \$12,388 per year (ASU Tuition Estimator, 2019) and an additional cost of \$16,000 for an additional fifth year of education to acquire a Master's degree. Is the investment worth possessing a graduate degree or undergraduate degree with these assumptions:

1. All tuition is paid for at the beginning of the year
2. Average undergraduate students earn \$55,000 per year (to be paid at the end of the year) for ten years
3. Average for students with Master's degree earn \$76,000 per year (to be paid at the end of the year) for nine years
4. Min. rate of return is 10%; present value (PV) of 10 years at 6.145 and 9 years at 5.759

Net present value (NPV) of cash inflows from an undergraduate degree is as follows:

$(\text{Net Cash Inflow} * \text{PV}) - \text{Initial Investment} = \text{NPV}$

Net Cash Inflow = \$55,000

PV = 6.145

Initial Investment = \$49,552 (\$12,388 \* 4 years)

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Calculation:  $(\$55,000 * 6.145) - \$49,552 = \$288,423$

Net present value (NPV) of cash inflows from a Master's degree is as follows:

$(\text{Net Cash Inflow} * \text{PV}) - \text{Initial Investment} = \text{NPV}$

Net Cash Inflow = \$76,000

PV = 5.759

Initial Investment = \$65,552 ( $\$12,388 * 4 \text{ years} + \$16,000$ )

Calculation:  $(\$76,000 * 5.759) - \$65,552 = \$372,132$

Based on the calculation, there is a net advantage of \$83,709, which indicates that pursuing a Master's degree in accounting from Arizona State University is expected to recover the investment and provide more than the minimum rate of return of 10%.

Cost accounting helps managers determine the actual cost involved in manufacturing a product or the cost involved in providing services. It also helps managers identify which products or services are most profitable and which ones to eliminate. Non-financial performance measures are required for the success of any company because all risks and rewards of any business process are not possible to track only from financial performance measures. Cost accounting is also helpful when determining if an investment is worthwhile.