

Accounting for Resource Flows

In recent decades business has begun to realize that so called standard accounting overlooks and misallocates costs, and costs them money. About 25% of accounting in the U.S. is now done via Activity Based Accounting; however ABC accounting is very sensitive to what drivers are used to allocate costs; energy, water and other flow costs still tend to be assigned to labor drivers – which perpetuates the problems we have covered. There are some further steps, which are still in their infancy.

One, which is not widely used, is RCA (Resource Consumption Accounting) which assigns costs to resources, not merely activities³⁴⁵. I don't know if the approach as a whole provides results superior enough to ABC accounting to be worth the additional effort. However, there is one area in which it which takes a vital step; it uses the solution of simultaneous equations to allocate costs. Whole systems thinking is always iterative, always requires simultaneous solutions, because optimizing parts separately almost never optimizes the whole. Accounting (other than projections forward) has always stuck to simple arithmetic for good reason; the resources to use anything more complex on a routine basis were not there. However with computers, the use of simultaneous solutions is no more difficult than simply double entry booking. Like ABC, there is extra data entry – which is where the question of effort vs. results has to be evaluated. But if you are using a system such as ABC where the data needs to be entered in any case, then it makes no sense to avoid computer time (but not human time) it would take to allocate properly.

More widely used, at least in larger EU companies is Environmental Management Accounting. EMA is not a case of corporations suddenly caring about more than their bottom line. It is based on the recognition that some environmental mistakes can cost companies money. The International Body UK, provides a decent explanation of this³⁴⁶. EMA is actually an ad-hoc collection of many techniques. However it almost always includes flow accounting, a measurement of the physical flow of materials and resources through the company – with cost allocation taking place only after knowing where the material is physically and who is responsible for it. It also includes better accounting for contingent liabilities, placing a value on the risk taken both of monetary liability and loss of reputation if a company is proven responsible for severe environmental damage. Better accounting is not a fundamental solution; but it can provide some marginal improvement, and has a role to play.

Note that green accounting tends to have very high transaction costs; it pays for itself in the narrow sense of increasing profits only in intensively polluting or resource intensive industries. For light and service industries more informal means, such as periodic green audits given better results for each dollar spent.

A strong example of how flow costs tend to get misallocated is the issue of occupational safety. Of course the primary “misallocation” here is a misallocation of power that leads to callousness and indifference to human suffering. Here I’m making a narrower point – that many costs *to the owner*, which you would expect to be tracked out of self interest, are hidden³⁴⁷. The paper cited gives examples of indirect costs which are often allocated to general overhead, rather than a specific accident:

Interruption in production immediately following the accident

Morale effects on coworkers

Personnel allocated to investigating and writing up the accident

Recruitment and training costs for replacement workers

Reduced quality of recruitment pool

Damage to equipment and materials (if not identified and allocated through routine accounting procedures)

Reduction in product quality following the accident

Reduced productivity of injured workers on light duty

Overhead cost of spare capacity maintained in order to absorb the cost of accidents

Not every firm will miss every one of these costs; but most will miss some. These are real dollar and cents costs to the owner. Estimates of how many of these costs are missed vary from a bit less than half to as high as 20 to 1. In other words, almost half the cost of worker injury being missed is the *low* estimate.

End Notes

³⁴⁵B. Douglas Clinton and David E. Keys, "Resource Consumption Accounting: The Next Generation of Cost Management Systems," *Focus Magazine: For the Performance Management Professional* 5, no. 2002 (2002), Focused Management Inc., 2/Apr/2005 <http://www.focusmag.com/back_issues/issue_05/pages/rca.htm>.

³⁴⁶Shane Johnson, *Environmental Management Accounting*. 13/Jan 2004, Association of Chartered Certified Accountants, 2/Apr/2005 <<http://www.acca.co.uk/publications/studentaccountant/1073480>>.

³⁴⁷Peter Dorman, *The Economics of Safety, Health, and Well-Being at Work: An Overview*. In *Focus Program on Safe Work*. May 2000, International Labour Organization (ILO) of the United Nations, 2/Apr/2005 <<http://www.ilo.org/public/english/protection/safework/papers/econal/ecoview.pdf>>.p17.