

Thinking Clearly about Efficiency

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Abstract

The norm of efficiency is a ratio of benefits to costs. Every assessment of the efficiency of some course of action is determined by which consequences are identified as benefits by the individuals making the assessment, which consequences they identify as costs, and which consequences they do not identify for consideration. Thus there is never just one correct assessment of the efficiency of an action.

In the provision of goods and services, courses of action—whether proposed or undertaken—are sometimes justified by an appeal to greater efficiency. It is claimed, for example, that the United States Postal Service must become more efficient to survive (Rollberg, 2011). Physicians are encouraged to become more efficient by switching to an electronic medium for creating and maintaining patients' records (T-System Inc., 2011). The Medicare program is urged to promote greater use of nursing facilities in post-acute patient care as a more efficient alternative to long-term care hospitals and in-patient rehabilitation facilities (Alliance, 2011). Communities share emergency services because they believe it to be more efficient (Damon, 2011). Companies reorganize to make themselves more efficient (RNB, 2011). The use of robots in a toy distribution center is claimed to make the work more efficient (Bindra, 2011).

On the surface, such claims seem unobjectionable, at least in the world of business and service agencies. When providing goods or services, how could it ever be considered rational to avoid a more efficient way of doing so? Who among us would shun more efficient procedures or arrangements in his or her work? I value efficiency as much as my co-workers; my department supervisor will be glad to know that, at the least, I do not desire to become less efficient. My goal here is not to cast aspersions on the norm of efficiency. Rather, my goal is to elucidate the nature of this norm, and to point out that seemingly uncontroversial appeals to efficiency hide complexities.

Consider first all forms of practical action, whether growing cherry tomatoes, teaching a child the alphabet, or shipping toys to customers. All such actions are goal-directed. If we do indeed want to attain our chosen goals, then our range of possible actions is constrained by the fundamental practical norm of *effectiveness*. The effectiveness of an action is the degree to which it attains its intended goal. All practical actions are judged by this norm. This is not a uniquely human condition. All things with needs—all living things—are answerable to the norm of effectiveness. "Survival of the fittest" can be seen as "survival of the most effective".

But effectiveness is not, of course, an end-in-itself. Built right into the norm is the idea of an external goal that an action is effective *for*. No thing or action is effective *per se*. Each specific application of the norm of effectiveness presupposes the adoption of a more basic standard, namely the identification of some state of affairs—a goal—as desirable in itself.

When, as is usually the case, there is more than one way to achieve some goal, the issue of how to achieve it is joined by the issue of how *best* to achieve it. That is, the question of the *efficiency* of an action becomes practically significant. In an article deserving a much wider audience, Alex Michalos (1972) defined the efficiency of an action as "the ratio of its benefits (including effectiveness) to its performance costs, i.e., by the ratio of what we get (benefits) to what we pay for (costs)" (p. 138).

What is crucial to notice here is that efficiency is not an unanalyzable basic norm, but rather a relation (a ratio) between other, more basic standards: things that are valued as benefits and things that are valued as costs. The norm of efficiency is a construction built out of other standards.

Since efficiency is a ratio between benefits and costs, it may seem that the most rational procedure would be to perform an utilitarian assessment of all of the benefits that will accrue and all of the costs that will be incurred for each alternate course of action that could achieve a chosen goal, and then to choose the course of action that maximizes benefits relative to costs. But this kind of global or total assessment faces the practical difficulty of being able to identify all the beneficial and harmful consequences of an action. Many authors have maintained that we simply cannot know all of the consequences of an action prior to performing the action. As G. E. Moore (1955) stated, “We hardly ever, if ever, know for certain which among the courses open to us will produce the best consequences. Some accident, which we could not possibly have foreseen, may always falsify the most careful calculations” (p. 118).

Moreover, Lars Bergstrom (1966) has argued that, for “the great majority of cases”, we cannot even know the total consequences of an action after the action has been performed, reasoning as follows: For any action *a*, imagine that you have identified a set of consequences *C*, such that every member of *C* is in fact a consequence of *a*. Suppose also that you cannot think of anything else that is a consequence of *a*. Bergstrom claims that neither you nor anyone else can at any time *know* that every consequence of *a* is a member of *C*. While he grants that he is not able to prove that this view is correct, he finds it “extremely plausible”. Bergstrom invites “the reader who has doubts to consider any action he likes and all the consequences of it which he can think of, and then ask himself whether he is sure that the action does not have any further consequences” (p. 120). In support of this, I would ask the reader to consider, say, the action of buying a new car and all the consequences of that action that you can think of; can you *know* that that action had no other consequences?

Perhaps Bergstrom is incorrect about our inability to know the total consequences of an action after the fact. Nonetheless, it is the case that *in practice* no assessment of the efficiency of an action considers the total set of consequences of that action in comparison to the total set of consequences of all the alternative courses of action. Rather, every practical assessment of efficiency is restricted in its scope to some subset of the total good and bad consequences (benefits and costs) of that action and its alternatives, and that—and this is the crucial point—this subset of consequences is *selected* by those doing the assessment as *the consequences that matter*. This implies that assessments about the efficiency of a course of action will vary in their conclusions according to which set of consequences are selected as the ones that matter.

The assessment of the use of robots as increasing efficiency in a toy distribution center (Bindra, 2011) illustrates this point. In discussing the introduction of robots the company’s CEO stated that the use of robots was more efficient in that it eliminated the cost of human workers moving around the giant warehouse to retrieve products. With the robots bringing the products to the people, the people now spend their time picking and packing orders rather than moving. Here the cost identified is the cost incurred when people spend their time moving through the warehouse. Efficiency will be increased if this cost can be reduced while *all other costs and benefits remain the same*.

But can we be sure that all other costs and benefits will remain the same with this new arrangement? One new cost that would arguably be incurred is the cost of people *not* moving around: becoming more sedentary is costly. Perhaps the CEO and others would argue that this cost is not one that his business incurs, but rather falls to the workers. Whether this claim is entirely correct or not is beside the point, which is that the particular assessment reported in the article—that the use of robots is more efficient than the previous arrangement—identifies certain consequences as costs to be considered (people moving) while simultaneously not identifying other consequences as costs to be considered (people not moving). Thus, this assessment of efficiency of this course of action is but one of the possible assessments of its efficiency. It would be a mistake to think that this published assessment of efficiency is *the* correct, objective assessment. Yet the article is written in a way that implies, or at least suggests, that the greater efficiency of robots in this context is beyond dispute, an incontestable objective truth.

Assessments about the efficiency of courses of practical action are derived entirely from what those doing the assessing decide to count as benefits and what they decide to count as costs. Thus a particular assessment of efficiency can be seen as the one and only possibly correct judgment only if we ignore, forget or suppress its derived status and take that particular derivation as an objective, non-negotiable given.

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