



MEASURES AND INDICATORS

Last Updated: 10 Jan 14

At all levels of assessment, planners should choose criteria that describe or establish when actions have been accomplished, desired effects created, and objectives achieved. These criteria are called “measures and indicators.” There are two common types of measures:

- ★ Measures of performance (MOP): A criterion used to assess friendly actions that are tied to measuring task accomplishment.¹ An example of this would be five offensive cyberspace operations performed, 100 combat sorties flown, and 98% ordnance delivered effectively.
- ★ Measures of effect (MOE): A criterion used to assess changes in system behavior, capability, or operational environment that is tied to measuring the attainment of an end state, achievement of an objective, or creation of an effect.² An example would be to prevent the enemy’s weapons factory from delivering weapons to the enemy for at least 48 hours.

Measures and indicators are selected MOEs and MOPs established during planning. When selecting assessment measures, planners should identify the essential elements of information required to collect against them and provide guidance in the collection plan and JIPCL if special ISR resources are needed. These measures should be refined or amended during the tasking cycle, as the tactical situation or the status of the target changes. Selection of assessment measures is an iterative, ongoing effort.

To be useful as a gauge of effectiveness, a measure, whether a MOP or MOE, should be meaningful, reliable, and either observable or capable of being reliably inferred. Meaningful means it should be tied, explicitly and logically, to objectives at all levels. Reliable means it should accurately express the intended effect. If quantitative measures are used, they should be relevant. It is not sufficient to choose, for example, “fifty percent of enemy armor attrited” as an MOE without understanding *why* that measure is relevant to objectives. Observable means that existing ISR collection methods can measure it with the required precision to detect the intended change.

¹ Ibid.

² Ibid.

MOEs and MOPs may be quantitative or qualitative. Sometimes subjective measures, independent of other empirical measures, determine whether indirect effects and the objectives they lead to are being accomplished. Qualitative means primarily that judgment should be made in the absence of meaningful quantitative measures. Military personnel tend to be less comfortable with these rather than with more empirical, quantitative, measures, since they are generally trained to regard their profession as more of a science than an art, but often the numbers themselves involved in quantitative measures can deceive. Seemingly “scientific” quantitative measures are often poorer representations of what should happen in the operational environment than more qualitative measures, like “enemy armor units A, B, and C not offering larger than platoon sized resistance to forces closing on Phase Line X until at least day Y.” Such a measure may be much more relevant to the friendly scheme of maneuver, be easier to collect against, and be easier for commanders to act upon. It is often easier, especially at the higher levels of assessment, to choose qualitative measures that are logically tied to objectives. Quantitative measures, on the other hand, can, through their very seeming certainty, take on a life of their own, leading to actions that do not contribute to accomplishing objectives or the end state. For example, during Operation DESERT STORM, strategic attack missions took down key nodes to deny power within the Iraqi electrical system. This effect was accomplished with little destruction of Iraqi civilian electrical power infrastructure. Nonetheless, many power generator plants were destroyed later in the campaign, in part because traditional empirical measurements of electrical capacity showed that the Iraqis still had substantial usable resources. By failing to apply a qualitative analysis to the empirically derived information, this destruction of Iraqi power plants ultimately hampered civilian recovery following the campaign. This example also points out the importance of integrating assessment into employment planning and target development efforts early on.
