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Standard Practice for Calculation of Asset Movement Velocity (AMV)[1]

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1. Scope

1.1 This practice calculates asset movement velocity (AMV) based on the movement of assets.

1.2 There is no existing, recognized practice for calculating AMV.

1.3 This practice is designed to be applicable and appropriate for all asset-holding entities.

1.4 This practice does not cover material inventory. Inventory velocity (or inventory turns) is extensively described and discussed in supply chain literature and is based on throughput rather than movement transactions.

1.5 AMV can be calculated for the entirety of the asset inventory of the entity or any defined subset, including individual assets.

1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Terminology

2.1 *Definitions of Terms Specific to This Standard:*

2.1.1 *asset movement velocity (AMV), n*—rate at which assets moves into, within, and out of the accountability system of an entity.

2.1.2 *portable equipment, n*—asset not tracked to a physical location level because the nature of the asset usage requires a high degree of flexibility in its physical location.

2.2 *Acronyms:*

2.2.1 *AMV*—asset movement velocity.

2.2.2 *PLL*—physical location level.

3. Significance and Use

3.1 This practice establishes a standard calculation representing the operational fluidity of assets used by an entity.

3.2 It is intended that this practice foster and enable additional practices related to or based on AMV information.

3.3 This practice enables effective and consistent communication and trend tracking over time regarding AMV.

3.4 Calculating, recording, tracking, and comparing the computed AMV will provide comparative insight into the operational complexity of the entity. Determination of the component parts of the AMV calculation will provide information on the number of acquisition, disposition, and movement transactions and, viewed separately, will serve as a useful insight.

3.5 *Clarifying Comparative Example:*

3.5.1 Entity A has few assets that are of a high dollar value but have been in place for many years and seldom move. These items are tracked to the site physical location level (PLL). Entity A will have an AMV near 0.0. This will be an accurate reflection of the record keeping and transactional risk associated with the management of assets within the entity.

3.5.2 Entity B has over 5000 pieces of equipment that it tracks to the room PLL. As most of these items are information technology related, they typically have a useful life of a little over three years, after which they are donated to local schools. These items are moved from person to person and room to room very frequently for operational purposes. Entity B will have a high AMV, perhaps 3.0 or above. This will be an accurate reflection of the record keeping and transactional risk associated with the management of assets within the entity.

4. AMV Calculation

4.1 AMV is calculated and communicated in terms of a specific PLL.

4.2 Movement transactions as used in this practice include acquisitions of assets, changes in the recorded physical location of assets, and disposition of assets.

4.2.1 Changes in location include movement transactions recorded in the applicable asset record system and may include permanent or temporary movement for purposes such as use, temporary use, maintenance, calibration, storage, and so forth.

4.2.2 Changes in location do not include physical location changes of portable assets but do include changes to the location or accountability tracking information recorded for the portable assets.

[1] This practice is under the jurisdiction of ASTM Committee E53 on Asset Management and is the direct responsibility of Subcommittee E53.01 on Process Management.

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4.3 AMV is calculated and communicated in annual terms, though data may be collected and the AMV calculated for any specified time period based on data that is standardized to an annual basis.

4.3.1 If an alternate time period is used, the time period shall be clearly specified.

4.4 The number of total movement transactions is the sum of the number of acquisition transactions, physical location change transactions, and disposition transactions.

4.5 AMV is the total number of movement transactions divided by the number of assets in the asset set or subset.

4.5.1 For purposes of this calculation, the number of items in the asset set or subset is the current number of such items at the time the AMV is calculated unless stated otherwise.

4.5.2 AMV typically is expressed to two decimal places.

4.6 Stated mathematically:

$$AMV = (AT + LT + DT)/I \quad (1)$$

where:

AMV = asset movement velocity,
AT = acquisition transactions,
LT = physical location change transactions,
DT = disposition transactions, and
I = number of assets in the asset set or subset.

4.6.1 If:

$$MT = (AT + LT + DT) \quad (2)$$

where:

MT = movement transactions.

4.6.2 Then the AMV may be expressed as:

$$AMV = MT/I \quad (3)$$

5. Report

5.1 An entity shall use the physical location terminology or numerical level references or both to assure requirements and results related to AMV are uniformly expressed and communicated.

5.2 An entity shall determine the appropriate level of physical location information to use in calculating AMV.

5.2.1 The highest level recorded in the record system of the entity is the highest level available for use in this calculation.

5.2.2 The AMV can be calculated for lower PLLs based on PLL information included in the entity's records.

5.3 The AMV shall be expressed with reference to the set or subset of assets involved with the PLL and the time period. For example, "The asset movement velocity for the agency's test equipment assets at the Reno, Nevada site is 2.68 transactions per year."

6. Keywords

6.1 AMV; assets; asset movement velocity; location; moveable property; physical location; physical location level; physical location tracking; PLL; property; spatial tracking; transactions