

The Value of Asset Management to an Organization

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English Version



GFMAM

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The Global Forum on Maintenance and Asset Management

The Global Forum on Maintenance and Asset Management (GFMAM) has been established with the aim of sharing collaboratively advancements, knowledge and standards in Maintenance and Asset Management.

The members of GFMAM (at the time of issue of this document) are:

- Asset Management Council (AMCouncil), Australia
- Associação Brasileira de Manutenção e Gestão de Ativos (ABRAMAN), Brazil
- European Federation of National Maintenance Societies (EFNMS), Europe
- French Institute of Asset Management and Infrastructures (IFRAMI), France
- Gulf Society of Maintenance and Reliability (GSMR), Arabian Gulf Region
- Institute of Asset Management (IAM), UK
- Japan Institute of Plant Maintenance (JIPM), Japan
- Plant Engineering and Maintenance Association of Canada (PEMAC), Canada
- The Society for Maintenance and Reliability Professionals (SMRP), USA
- The Southern African Asset Management Association (SAAMA), South Africa

The enduring objectives of the GFMAM are:

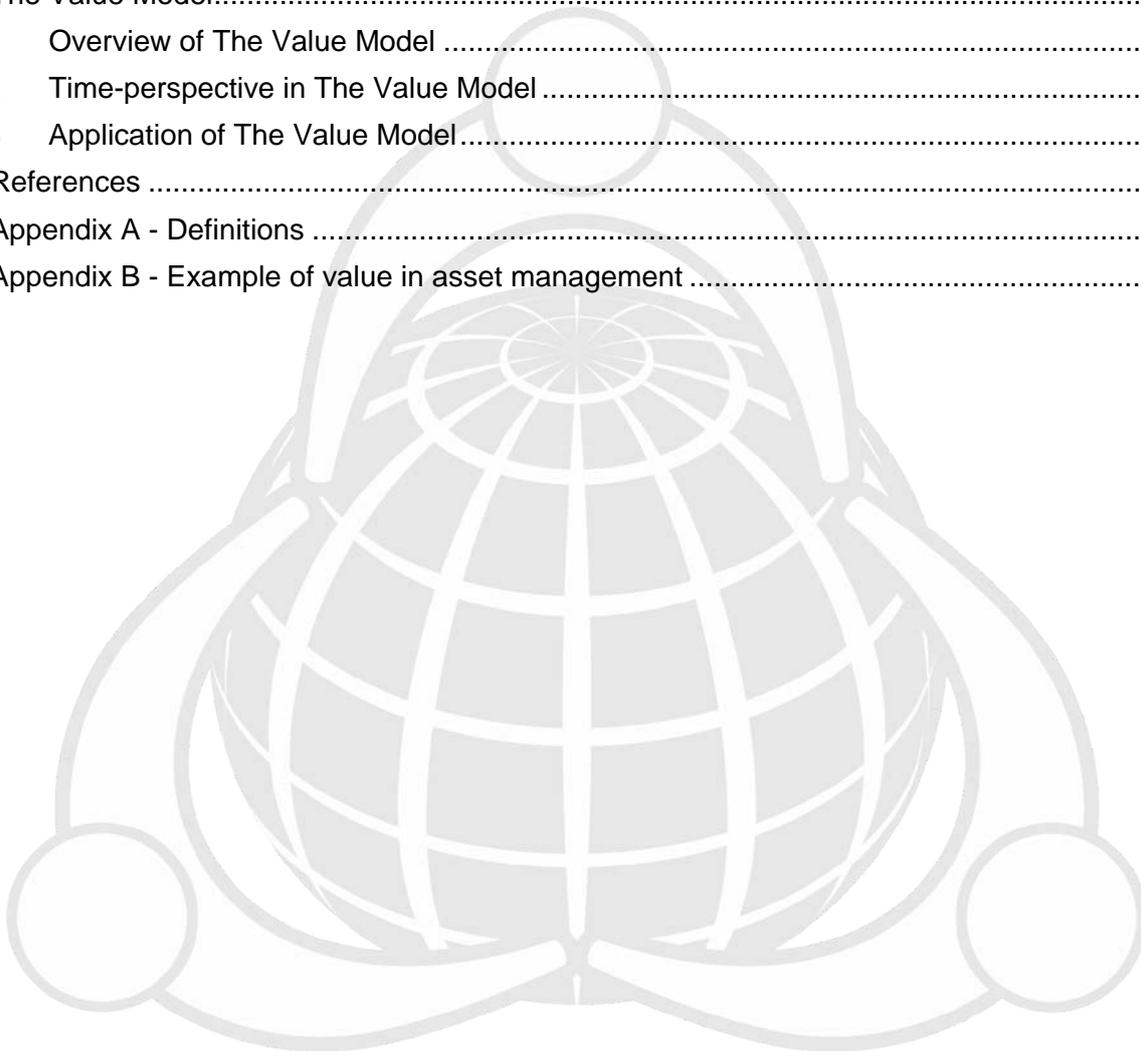
- 1) To bring together, promote and strengthen the maintenance and asset management community worldwide
- 2) To support the establishment and development of associations or institutions whose aims are maintenance and asset management focused
- 3) To facilitate the exchange and alignment of maintenance and asset management knowledge and practices
- 4) To raise the credibility of member organizations by raising the profile of the Global Forum

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1 Introduction

1.1 Background

The international standard on asset management, ISO 55000, describes the benefit of asset management as enabling organizations to realize value from the use of assets in the achievement of their organizational objectives. What constitutes value will depend on these objectives, the nature and purpose of the organization, and the needs and expectations of its stakeholders.

Asset management is important to organizations as effective control and governance of assets is essential to realize value in order to achieve the desired balance of performance, cost and risk. The understanding of the value that can be derived from asset management should reflect the value relevant to the various stakeholders of the organization.

The potential for value creation can be linked to the asset management maturity of an organization.

The Global Forum on Maintenance and Asset Management (GFMAM) has initiated a value project to develop a clear view on the value asset management can bring. Together with a Power Point presentation and two templates for application, this document represents the first outcome of the value project.

1.2 Acknowledgement

The following members of GFMAM have been engaged in this project

- Asset Management Council (AMCouncil), Australia
- Associação Brasileira de Manutenção e Gestão de Ativos (ABRAMAN), Brazil
- European Federation of National Maintenance Societies (EFNMS), Europe
- French Institute of Asset Management and Infrastructures (IFRAMI), France
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1.3 Purpose

The purpose of this document is to provide information on the value asset management can provide an organization.

2 Value of Asset Management

Asset management realises value from the use of assets. In the International Standard ISO 55000, asset management is defined as “the coordinated activity of an organization to realise value from assets”.

Organizations realise value from assets in the achievement of its organizational objectives, and what constitutes value will depend on these objectives, the nature and purpose of the organization and the needs and expectations of the stakeholders. Asset management involves the development of a desired balance of performance, cost and risk, to achieve the organizational objectives.

Value relates to the organizational objectives as do performance, cost and risk. The International Standard ISO 31000 defines risk as “the effect of uncertainty on objectives” and likewise performance is any positive effect on objectives and cost is any negative effect on objectives. As value can be both financial and non-financial, the same applies to performance, cost and risk.

Outside the discipline of asset management, other professions have been applying the concept of value creation. The European standard EN 1325 defines value as a “measure which expresses how well an organization, project or product satisfies stakeholders’ needs in relation to the resources consumed”.

In the attempt to develop a clear view to what value asset management can bring to organizations, effort has been taken to structure the concepts of value realization from ISO 55000 while seeking inspiration from the discipline of value management. This has resulted in the development of The Value Model, as described in the following chapter.

3 The Value Model

The conceptual model of the value of asset management (The Value Model) is a model that describes how asset management can bring value to an organization and its stakeholders.

The value model takes general elements of the realization of value from assets, and brings these elements together in one structured model of value creation. The value model can supplement any implementation model for asset management to ensure focus on value creation.

The value model is not a procedural model on how to implement asset management. The value model in itself has to be implemented to ensure the added value of improved coordinated effort within the organization.

3.1 Overview of The Value Model

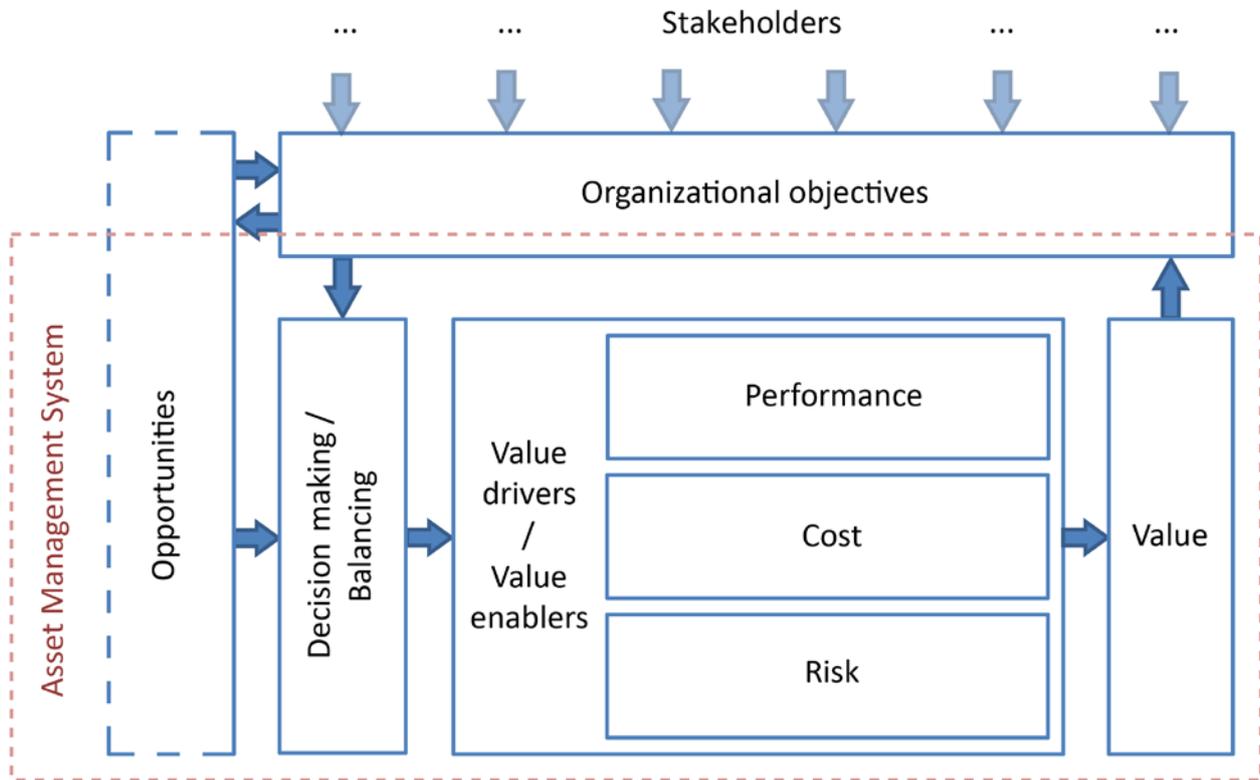


Figure 1 – The Value Model (front view)

Organizational objectives set the strategic direction of the organization. Organizational objectives are derived as part of the strategy process and should always reflect the interests of all key stakeholders to the organization. Asset management objectives are those objectives derived from the organizational objectives, relevant to the use of assets.

Organizational objectives can be both financial and non-financial and are often interdependent as they represent the divergent interests of different stakeholders. The potential influence of asset management in the achievement of organizational objectives depends on the importance of physical assets to the organization and is subject to the industry, the business structure, and internal and external factors in the organizational context.

Value relates to the organizational objectives as these objectives should reflect the needs and expectations of stakeholders. Value also relates to the balance of performance, cost and risk.

In general, what actually creates value are the values drivers, which can be any strategy, system, process, asset or other element of asset management that affects performance, cost and/or risk for the purpose of value creation.

The elements of asset management exist only for the purpose of value creation where some elements are required for other elements to do so. These elements are termed value enablers. The distinction between value drivers and value enablers can help organizations understand “how” asset management actually creates value.

Where a value driver has a direct positive impact on the value creation, the value enabler only has an indirect effect on performance and value creation. An example would be that a new procedure for a work process is a value driver with direct effect on performance, cost and thus value, whereas

general asset management training for ground personnel would be a value enabler. The cost of training is direct but the performance of training has to be identified through other value drivers like increased efficiency and effectiveness in work execution.

The asset management system should not have any elements that do not drive or enable value and any value enabler should be causally and logically linked to value drivers. If for example an asset or activity does not in itself generate value (value enabler), it must be explainable how this asset or activity can support other elements (value drivers) to create value.

There are numerous opportunities for how an organization can increase the realization of value from assets and in the decision making between these opportunities organizations should seek the desired balance between organizational objectives and performance, cost and risk.

3.2 Time-perspective in The Value Model

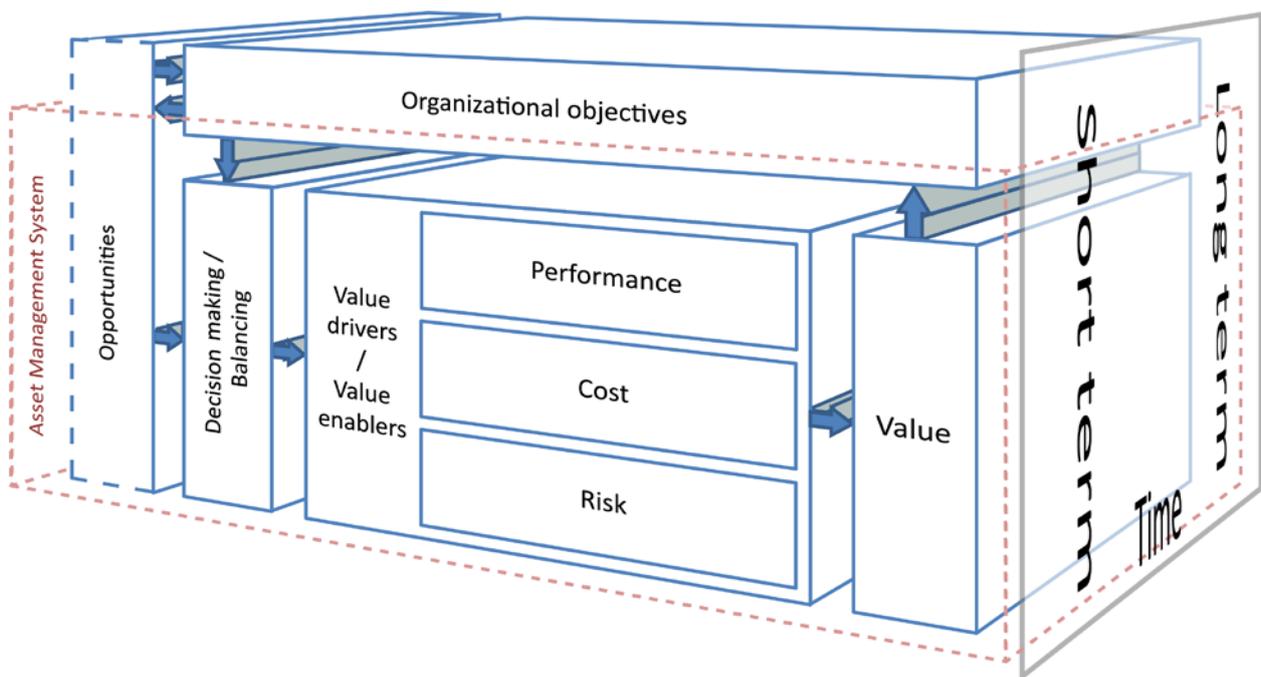


Figure 2 – The Value Model (perspective view)

The time-perspective is fundamental to every aspect of asset management. Assets deteriorate over time; demand varies over time, investments in assets and asset management systems takes time to implement and so on. Even stakeholders can change over time and certainly, the organizational objectives will change over time.

The value of asset management is more than a question of how much value an organization can realize from its assets but also when this value can be realised. Asset management always involves a balancing of value over time as asset management can create short-term value at the sacrifice of long-term value and vice versa.

Any investment, for example in an asset or in the asset management system, is about taking short-term cost to the benefit of long-term performance, which will reduce the short-term value and

increase the long-term value. Any decision on what to invest in or when to invest is a decision of balancing value across time.

3.3 Application of The Value Model

Organizations can apply The Value Model in any way they find useful. The model can be applied loosely as a structured way of thinking and speaking about the value from asset management or the model may form the basis for building models to support decision-making within asset management in organizations.

The Value Model can be applied for forward looking decision-making to evaluate the expected outcome as added value for different asset management scenarios and/or opportunities.

The Value Model is also intended to help organizations evaluate value creation from completed asset management efforts.

In relation to this document, GFMAM has developed a Power Point presentation, which introduces the main document content as well as the following two templates to support the potential applications of The Value Model:

- Template for Assessment of Opportunities
- Template for Case Studies

It is the intent of GFMAM to use the template to develop examples of the value creation from actual asset management implementation projects, and therefore GFMAM has a strong interest to connect with organizations who would like to participate with case studies of asset management implementation initiatives.

4 References

The following are references to work that has been undertaken by members of GFMAM related to the value of Asset Management

- Asset Management Maturity
- The Asset Management Landscape

The following are some more general references to different approaches to defining and assessing value:

ISO 55000	Asset management -- Overview, principles and terminology
ISO 55001	Management systems -- Requirements
ISO 55002	Asset management -- Management systems -- Guidelines for the application of ISO 55001
AS 4183	Value Management
CEN EN 12973	Value Management
CEN EN 1325	Value Management - Vocabulary - Terms and definitions
SAVE International.....	SAVE International, Value Standard and Body of Knowledge

5 Appendix A - Definitions

For the purpose of this document, the following definitions apply

1. **ASSET** - item, thing or entity that has potential or actual value to an organization
Note 1 to entry: Value can be tangible or intangible, financial or non-financial, and includes consideration of risks and liabilities. It can be positive or negative at different stages of the asset life (ISO 55000- 3.2.1 Definition of “asset”)
2. **ASSET MANAGEMENT**- coordinated activity of an organization to realize value from assets
Note 1 to entry: Realization of value will normally involve a balancing of costs, risks, opportunities and performance benefits. (ISO 55000- 3.3.1 Definition of “asset management”)
3. **BALANCING** - Selecting an option in a trade-off between objectives
Note 1 to entry: A desired balance between performance, cost and risk; and between short-term and long-term objectives (See also ISO 55000- 3.3.1 Definition of “asset management” Note 1 to entry)
4. **COST** - Cost is any negative effect on objectives
Note 1 to entry: Cost include monetary cost but also time, materials (both physical and abstract), sustainability and social impact
Note 2 to entry: Cost is measurable and can relate to both quantitative and qualitative findings
Note 3 to entry: If all other factors (Performance & Risk) are equal, a decrease in cost will increase the realization of value
5. **DECISION MAKING** - The action or process of deciding between different opportunities for value realization
6. **OPPORTUNITY** - The possibility to do something different in the pursuit of realization of value
7. **ORGANIZATIONAL OBJECTIVE** - overarching objective that sets the context and direction for an organization’s activities. (ISO 55000 – 3.1.4)
Note 1 to entry: Organizational objectives are established through the strategic level planning activities of the organization
8. **PERFORMANCE** - any positive effect on objectives (see also ISO 55000 – 3.1.17)
Note 1 to entry: Performance is measurable and can relate either to quantitative or qualitative findings.
Note 2 to entry: Performance can relate to the management of activities, processes products (including services), systems or organizations
Note 3 to entry: For the purposes of asset management performance can relate to assets in their ability to fulfil requirements or objectives
Note 4 to entry: If all other factors (Cost & Risk) are equal, an increase in performance will increase the realization of value.

9. **RISK** - effect of uncertainty on objectives (ISO 55000 – 3.1.21)

Note 1 to entry: An effect is a deviation from the expected — positive and/or negative.

Note 2 to entry: Objectives can relate to different disciplines (such as financial, health and safety, and environmental goals) and can apply at different levels (such as strategic, organization-wide, project, product and process)

Note 3 to entry: If all other factors (Performance & Cost) are equal, a decrease in risk will increase the realization of value

10. **SOCIETY** - The community of people living in a particular country or region and having shared customs, laws, and organizations

11. **STAKEHOLDER** - a person or an organization that can affect or be affected by a decision or an activity. (ISO 55000 – 3.1.22)

Note 1 to entry: Stakeholders also include those who have the perception that a decision or an activity can affect them.

Note 2 to entry: Stakeholders can be internal or external.

12. **VALUE** - Value is the satisfaction of stakeholders' needs in relation to the costs incurred and in consideration of the associated risks

Note 1 to entry: What constitutes value to the organization and its stakeholders is expressed in the organizational objectives

Note 2 to entry: Value is measurable either qualitatively or quantitatively. Value can be expressed as performance less cost in relation to the associated risks and in mnemonically terms as:

$$\text{Value} = (\text{Performance} - \text{Cost}) @ \text{Risk}$$

13. **VALUE DRIVERS** - Any asset or activity that has a direct impact to the performance, the cost and/or the risk, and thereby to the realization of value

Note 1 to entry: The desired value of a value driver is always positive whereas the actual achieved value can be positive, negative and neutral.

Note 2 to entry: The term “activity” has a broad meaning and can include, for example, the approach, the planning, the plans and their implementation (ISO 55000- 3.3.1 Definition of “asset management” Note 3 to entry)

14. **VALUE ENABLERS** - Any asset or activity that does not in itself realize value, but is required to support one or more value drivers to do so

Note 1 to entry: The term “activity” has a broad meaning and can include, for example, the approach, the planning, the plans and their implementation. (ISO 55000- 3.3.1 Definition of “asset management” Note 3 to entry)

6 Appendix B - Example of value in asset management

The value provided by asset management can be expressed in many terms, such as financial terms, in wealth creation terms, in safety terms, in general risk terms and in performance or levels of service terms.

Stakeholders may also express value in very different terms, depending on their needs, their environment and their stakeholders.

Commonly used terms for expressing value from asset management, include:

- Safety (to both the public and employees) such as Lost Time Injury Frequency Rates (LTIFR) or similar.
- Financial – Return on Investment (ROI) or Return on Equity (ROE) or similar. Many organisations deliver ROIs and/or ROE to attract and retain shareholders or investors. Such efforts can also be related to establishing and retaining share price and/or market share.
- Wealth creation – Return on Net Assets (RONA) is a measure of the wealth generated by the physical assets of an organisation. The RONA of an organisation is often compared to official interest rates and can be used to assess the wealth generation capability of various organisations.
- Level of Assurance – Investors may have a short or long term perspective to their investment. The level of assurance is a measure of the confidence investors have that the organisation will deliver the required (usually financial) returns.
- Service Levels – For many organisations such as public transportation, the assets are primarily required to deliver the required level of service.
- Residual Risk Profile – For many organisations, the perception of how their environmental, regulatory and reputational risks (associated with the use of assets) is an important issue. Residual risks are often assessed using benchmarking and/or industry guidelines/requirements.