Asset Management

Guidance on the Alignment of Functions

First Edition
August 2022
About ISO/TC 251

We are the ISO Technical Committee for Asset Management Systems responsible for the development of the ISO 55000 family of standards. These standards define good practices in Asset Management and requirements for a management system.

Find out more at committee.iso.org/tc251

Working Group 5 of ISO/TC 251 wishes to thank all members and particularly the following for their input to the writing and review of this article: Armando Vittorangeli, Bernadette O’Connor, Kerry Brown, Norberto Levin, Rhys Davies, Richard Culbertson, Ross Goyne and Sam Sidawi.

Johan Paulsson
Convener of ISO/TC 251 WGS
johan.paulsson@tetrapak.com
Introduction

A well-known problem with technical maintenance and service delivery stems from the conflict that can arise through so-called "silo effects" (Hotaran, 2009), i.e., when people in various functions who are expected to work together do not meet this expectation. While silo behaviours could be present in various functions of an organisation, this article focuses on the impact on asset management.

Common Issues

The main generators of horizontal misalignment between functions within an organisation are 1. an incomplete understanding of the interrelationship between functions and 2. a limited long-term vision.

The people who work in an organisation usually know the main objectives of the organisation. However, they do not always fully appreciate in an integrated way, how the different support functions operate and how they interrelate with each other. People may not clearly understand the organisational relationships and hierarchy of functions providing support to the main objectives to achieve the organisation’s purpose.

These functions can include maintenance, procurement, logistics, transport, capital works delivery and planning, renewal modelling, project management, finance, service delivery, accounting, financial management.

There can also be a lack of long-term vision which encompasses the entire life cycle of the assets. The vision or context for these functions can often be limited to meeting short-term goals or objectives to be achieved, for example, a time horizon aligned to an annual budget cycle.

Frequent Causes

The most frequent causes of these misalignment problems are the following:

1. Structure versus process
   Most organisations have a vertical functional structure, but between the functions that support the core business, there may be no process relationship. Every junction point between functions could be a point of conflict. This process issue results in poor horizontal alignment which may create or exacerbate "silo" behaviour.

2. Silo behaviour
   Within the enterprise, particularly in the support functions, "different businesses" may co-exist. Each function solves its own problems, in this case, supporting operations in its productive work, without much concern for the needs or problems that may exist in other functions. In short, everyone "plays their own game" without taking account of what happens in the other functions and to the organisation as a whole.

   Silo behaviour can reach more extreme levels when functions choose to utilize information as "a source of power" and may be reluctant to share information with other functions within the organisation.

3. Divergence of objectives
   Support functions enable the operational functions to fulfil the task that gives life to the organisation. The problem begins when the objectives of each support function diverge from the objectives of the operational functions or from the objectives of the other support functions.
For example, if the sales objective is to sell as much as possible without a limit, it may clash with the objective of the production area, which is responsible for production capacity and limits in the supply of materials prevent realising the ambitious sales target.

Another example is the interrelationship between maintenance and purchasing. Maintenance must enable operations to be effective by ensuring that its assets are available when it needs them. At the same time, Purchasing must ensure that the inputs required by operations are available when it needs them, in turn ensuring that the company spends less money. But when Maintenance needs a spare part and requires it from Purchasing, it could be a second priority order for this function, not realising that the lack of that part may cause a plant shutdown at a cost much higher than the value of the spare part.

Divergence of objectives and priorities does not help the integration of the functions and the supporting functions.

4. Divergence in the measurement of objectives

Another problem is how top management measures the achievement of objectives of different functions. For example, Sales can be measured by the amount of product or services sold in one period in relation to what was sold in the previous period; Maintenance can be measured by the availability of equipment, which is the first variable that affects Overall Equipment Effectiveness (OEE); and Procurement can be measured by its effectiveness in the execution of spending with the appropriate Key Performance Indicator (KPI) for the organisation objectives.

As mentioned in the first example in Frequent Cause #3, what happens if Sales sells more than Operations can produce? Production assets have to be stretched to meet the amount promised by Sales. If the target quantity cannot be reached, customers will not receive their goods and the organisation will be affected negatively.

With relation to the second example in Frequent Cause #3, another discrepancy in target measurement can be seen between Maintenance and Purchasing. For example, to improve the performance of an asset, an action must be taken that requires consumables and spare parts that Purchasing must provide, expending resources that will impact the current period. It may happen that the results of this improvement are not immediately significant and its effectiveness and the savings it means for the organisation can only be appreciated after a couple of years. From the point of view of the indicators, "Availability" will not improve decisively in the short term, but Procurement will see an increase in "total expenditure for the current period" without an increase in sales, and there will be an imbalance between the KPIs of the areas. In short, there may be a temporal divergence in the evaluation of the two functions, because one area works on "life cycle cost" and the other area on "expenditures in relation to sales in that period".

Conflicting performance metrics do not help the integration of the functions and should be aligned across the organisation.

5. Divergence of language

Another discrepancy arises from different terminology used in the different functional areas. For example, the Head of Maintenance will try to explain to the Head of Purchasing, in their own technical language what their needs are and will explain how the Mean Time To Failure (MTTF) of a piece of equipment can be extended, improving its reliability and availability. The Head of Purchasing will listen, but may not fully understand the technical explanation, and instead perceive that there is a request for an increase in expenditure.

6. Consultation in decision making

Those employed in different functions are not always encouraged to participate or be consulted to make decisions on issues that could fall within their competence,
even if only tangentially. The different function heads may not be encouraged to present to their peers the operation and problems, seeking to reach agreements or actions that result in the overall improvement of the organisation. This situation could be due to failures of leadership and communication in top management.

**Finding Solutions**

To solve this problem, guidelines can be formulated to bridge the gaps that produce horizontal misalignment in organisations, as follows:

- Work on the relational competencies of those responsible for the different areas and their interrelation with the others to encourage cooperative attitudes;

- Ensure that different support areas involved in asset management agree on a shared granularity across all asset registers, to allow for the exchange of asset-related financial and non-financial information that refers to the same assets. Technical specification ISO/TS 55010 discusses this issue in depth;

- Implement the agreed granularity for sharing asset-related information in an “asset types dictionary” with standardised asset descriptions and make it mandatory for the addition of new assets in all existing financial and non-financial asset register. Additions of assets of finer granularities will be registered as improvements to parent assets with the information-sharing granularity;

- Reconcile assets in all existing financial and non-financial asset registers to conform with the information-sharing granularity specified in the asset types dictionary;

- Ensure that the organisation’s ERP platform provides reading and reporting authorisation across all financial and non-financial asset registers;

- Align the financial and non-financial indicators of the different areas, allowing comparison over more than one period to be able to visualise the efficiency of expenditure throughout the life cycle of the asset. To achieve this alignment, an integrated vision is required because individual areas may not be able to project over the long term;

- Establish a decision-making process based on an integral vision of the organisation’s operation and objectives, considering the cost-risk-performance of each action to undertake; and

- Implement procedures related to the fulfilment of the part of the Logistics Cycle that corresponds to each function, to achieve the purchase of what is needed at the most convenient price for the organisation.

**Conclusion**

Finding solutions for silo behaviours should be one of the leadership’s main responsibilities. Top management should be aware of the possible extent of silo behaviours in the organisation and of their negative consequences, in all functions but particularly in asset management, because silo behaviours will have a direct negative impact on the value derived from the assets.

If silo behaviours in an organisation are found to be significant, the above-mentioned frequent causes and guidelines for finding solutions can help eliminate these behaviours and the obstacles they represent to achieving objectives.

The following diagram is an extract of *Figure 1 – Key elements of a framework to achieve alignment* from Section 5 *Enablers for alignment* - ISO/TS 55010:2019 and provides guidance on how to establish alignment relationships between stakeholders that can address any conflicting interests regarding how assets are managed.
Communicate the need and justification to improve alignment

1. Leadership

5. Performance Monitoring & Continuous Improvement
   - Set KPIs with aligned data, seek to improve alignment and teamwork

2. Teamwork
   - Cross-functional understanding of the need for alignment and plans to achieve it

4. Data and Information Consistency
   - Install asset dictionary in compliance with data standards for the organization and link all the various asset registers across departments

3. Asset Registers - Define Assets & Granularity
   - Cross-functional agreement for asset definitions and levels of granularity, update inventory and componentize

---


http://www.rmci.ase.ro/ro/no10vol1S/Vol10_SN_No1_Article32.pdf