

Sustainability: the industry approach for improving competitiveness and future viability

by Norbert Alt - GERMANY

1. Introduction

The finite nature of resources has long been known and is becoming ever more important in the form of rising costs and prices. Public discussion centres primarily on the consumption of fossil fuels and the associated climatic effects. The assumed scarcity of raw materials such as precious metals and rare earths is also increasingly becoming a focus of attention. The continued growth of the world population and legitimate claims to comparable prosperity (in terms of nutrition, comfort, mobility, etc.) are leading to considerable increases in demand and consumption.

Due to differing framework conditions in individual regions and countries, very diverse solution strategies are (still currently) being employed, e.g. in accessing and developing additional energy and raw material reserves, increasing energy and raw material efficiency and utilising renewable energies.

The agricultural machinery industry is affected and challenged from two points of view:

- it must deal with the challenges faced by all engineering companies (reactively), and
- as a key sector and industry of the future, it can make particularly valuable contributions in the areas of food and energy supply (proactively).

2. Objectives

Companies (agricultural machinery companies) must generate profits (economic sustainability) in order to ensure long-term company stability and to be able to fulfil responsibilities to their stakeholders.

In the past, a particular precondition for this was the supply of innovative machinery and products that assisted end customers in the creation of value. To an increasing extent, today the public image of the manufacturer plays a significant role in purchase decisions. The conduct and attitude of companies in relation to their responsibility regarding society and the environment is observed and evaluated in general, and especially by the younger generation. A positive evaluation represents an important competitive factor in terms of product sales. In the search for employees, the company culture and values assume a high priority. All of the aspects mentioned also apply to capital goods in particular, e.g. agricultural machinery and tractors.

For machinery in the premium segment it is therefore increasingly important for the manufacturer as a company, as well as its products, to comply with the expectations and values of end customers, so as to permit identification. Due to site-dependency and long-term thinking, 'agricultural' end customers have always been interested in resource-conserving cultivation and in the careful handling of production factors such as soil fertility.

The goal must thus be to offer an 'overall product' that meets all customer expectations and is comprised of:

- the company, as a supplier that practises and communicates the values of sustainability, i.e. meeting its responsibilities regarding society, employees and customers, and
- the product (agricultural machinery, tractors or services), which features a high level of functionality for safe, efficient agricultural applications, as well as high value stability and low life cycle costs, including recyclability.

3. Need for action

The principle of ‘sustainability’, originally developed for forestry, stands for future-oriented management, where environmental, economic and social aspects are considered to be of equal importance and are optimised with the goal of leaving future generations’ development opportunities that are at least equal to those available to the present generation.

The principle of ‘sustainability’ therefore reflects the values of ‘agricultural’ customers to a great extent and thus lends itself as a strategy which permits the agricultural machinery industry to address and implement the demands placed on companies and products by the society and customers. Moreover, ‘sustainability’ provides the opportunity of further developing the organisation as a whole via a holistic management approach, rather than repeatedly focusing on individual aspects (e.g. quality management, lean production, environmental management, and occupational safety and health management).

The principle of ‘sustainability’ needs to be put into concrete terms in order to reflect the specific conditions of the agricultural machinery industry and to be made ‘operable’. VDMA has initiated an international standard project for this purpose and has set up a task force to assist agricultural machinery companies in the development and introduction of industry related sustainability criteria via specific recommendations. The current solution approaches are presented below.

4. Solution approaches

4.1. General

The individual aspects of sustainability (the environment, economic efficiency and social aspects) are not new. Rather, the challenge consists of systematically comprehending the individual requirements, evaluating them equally and applying a long-term view (over generations). In order to consider the importance the principle of sustainability should be part and parcel of the corporate philosophy (e.g. vision, mission) and the business policy of the company to allow the specification of appropriate targets and strategies. For the implementation and the target oriented adjustment of the organisation and processes management systems are required. In the interest of lean, efficient structures, rather than introducing a new (additional) system, it may be appropriate to expand an already existing management system, e.g. the quality management system that is widespread in the agricultural machinery industry.

4.2 Basic procedure

In order to define sustainability targets and their realisation, six steps are essentially required:

- determining the stakeholder groups for the company and ascertaining their claims;
- aligning/strengthening company policy with regard to the interests of these stakeholder groups;
- determining performance characteristics and indicators as well as measures, which reflect these interests;
- optimising the performance characteristics within the framework of a continuous improvement process;
- reporting to the stakeholders concerning progress achieved;
- assessing and adapting targets and measures.

4.2.1 Stakeholders

Stakeholders are to be understood as persons or groups with requests or demands concerning the company, which are affected by or can influence company decisions. With respect to their interests, stakeholders can be divided into the following groups:

- owners and employees are primarily company-oriented, i.e. their concern centres on long-term successful company management and development;
- business partners (suppliers), distribution partners (dealers) and end customers are primarily product-oriented, i.e. for them the benefits, advantages and total costs of a product are of particular importance;
- Other stakeholders such as analysts/lenders, the media, scientists, politicians/society as well as communities and residents at the locations.

The dialogue with the stakeholders permits the company to recognise early general trends and developments as well as opportunities and risks. With regard to sustainability, it provides the possibility of inventorying, continuously updating and evaluating the topics that are important to stakeholders. Topics evaluated from the stakeholder and company perspectives will tend to display a high level of agreement. The resulting matrix (**Fig. 1**) is the starting point for the development of a sustainability strategy.

4.2.2 Company policy

Company policy defines not only the field of activity and fundamental goals, but also in particular the self-image and values of the company (corporate culture). Codes of conduct describe interactions both within the company and with external stakeholders.

Since sustainability affects all internal and external company matters in the sense of taking into account the interests of all stakeholders, company management must also assume a position in this regard and undertake a classification of company values. Here the formulations chosen are less important than whether the convictions and associated messages of management are successfully transmitted, so that they reach the awareness of every individual.

It is decisively important for the company values – including the company's position regarding the handling of 'sustainability' – to be practised by top management in everyday professional life, to be firmly established in middle management and to be an element of the convictions of every employee.

4.2.3 Performance characteristics and indicators, and measures

The 'multidimensional 'sustainability' concept must be made manageable and comprehensible, so that it can be applied in the company. Based on the topics identified within the framework of the stakeholder dialogue, specific targets and performance characteristics and indicators are to be determined, to which specific measures can be assigned (**Fig. 2**).

A very complete presentation of possible characteristics and indicators is included in the document *Sustainability Reporting Guidelines* [1]. The *Guidelines* should be understood primarily as providing orientation and a catalogue from which to choose. A complete implementation – at least in the initial stage – could mean that the administrative load predominates and that successes are (at first) not discernible. VDMA is thus investigating making available information that is tailored to agricultural machinery (see 4.2.6).

4.2.4 Improvement process

For the optimisation and further development of sustainability targets, characteristics and indicators, a continuous process is necessary – comparable to that required for 'quality'.

The process depicted in **Fig. 3** essentially corresponds to the continuous improvement process for quality in accordance with ISO 9001 and has been adapted only slightly (with the addition of stakeholders and performance indicators).

4.2.5 Reporting

Reporting concerning the sustainability performance of a company should take place

- internally, with the objective of promoting employee awareness, motivation and identification, thus keeping the process going, and
- externally, with the objective of informing business and distribution partners, end customers, and especially financial partners, the public and politicians concerning the company's principles (sense of responsibility, future orientation, etc.) and current sustainability status.

Depending upon the target group and message, various formats can be considered (e.g. website, business reports, press releases and employee information).

Sustainability reports, e.g. based on the recommendations of the Global Reporting InitiativeTM, are increasingly being prepared by larger companies in order to provide a comprehensive overview. However, the necessary expenditure for data collection and analysis is not to be underestimated and should be planned for a later time, if necessary.

It is decisive – not only for reporting – that the term ‘sustainable’ should be used responsibly, i.e. so that the data and facts correspond to reality, are traceable and can be documented (even if no formal certification is planned).

4.2.6 Evaluation

Analysis and assessment in relation to individual performance characteristics is part of the continuous improvement process (4.2.4).

If integrated data collection and assessment is planned, for instance in order to carry out a self-assessment of sustainability performance or to provide reliable data for a sustainability report, software-assisted tools may be considered (see e.g. [2]).

VDMA made available a tool specific to agricultural machinery, taking into account the special features of the agricultural machinery industry and including different configuration levels, in order to facilitate initial implementation and to permit systematic further development.

4.3 International harmonisation

Due to the globalisation of companies and markets, international standards for the agricultural machinery industry are indispensable. An international guideline is also appropriate with regard to the development and introduction of sustainability criteria, on the one hand to support a uniform approach worldwide in the field of agricultural machinery and on the other hand to achieve acceptance in the individual markets. Therefore ISO 17989-1 [3] is currently being prepared. The principles described in it largely correspond to the procedure presented in section 4.2. Following completion of the standardisation work, it is intended to reconcile the VDMA approach once again with the final version of ISO 17989-1 and to recommend the application of the ISO standard to VDMA member companies.

5. Conclusions

Sustainability is not only a social requirement; primarily due to its holistic approach, it also offers the opportunity to increase the competitiveness and future viability of a company. The VDMA approach provides specific recommendations concerning the development and application of sustainability criteria to assist VDMA member companies. The recommendations aim to comply

with the demand for sustainability on the one hand, while at the same time indicating a practicable course and specific ecological, economic and social benefits on the other hand.

References

- [1] **Global Reporting Initiative (GRI)**. Sustainability Reporting Guidelines; www.global-reporting.org
- [2] **Criteria and indicator model for the assessment of sustainability (KIM)**; SUSTAINUM (Institute for sustainable management); Berlin; Germany; www.sustainum.de
- [3] **ISO 17989-1 Tractors and machinery for agriculture and forestry – Sustainability – Part 1: Principles**

Figure 1 - Topic matrix – Importance from the company and stakeholder perspectives (example)

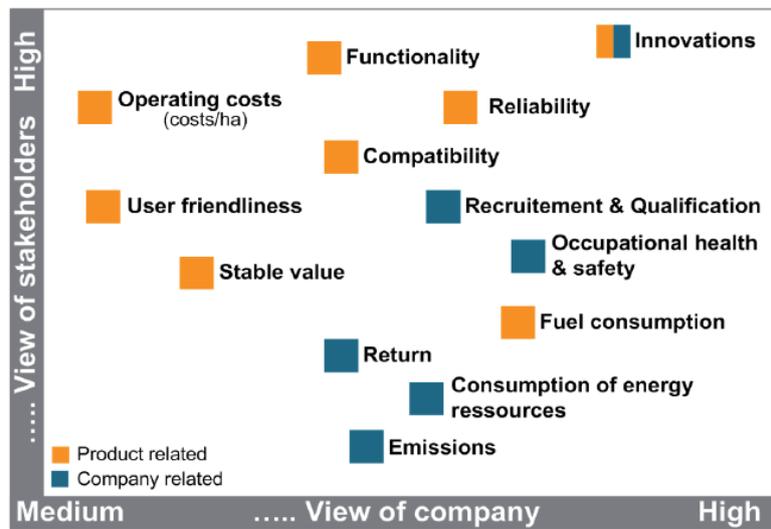


Figure 2 - Derivation of sustainability targets and indicators

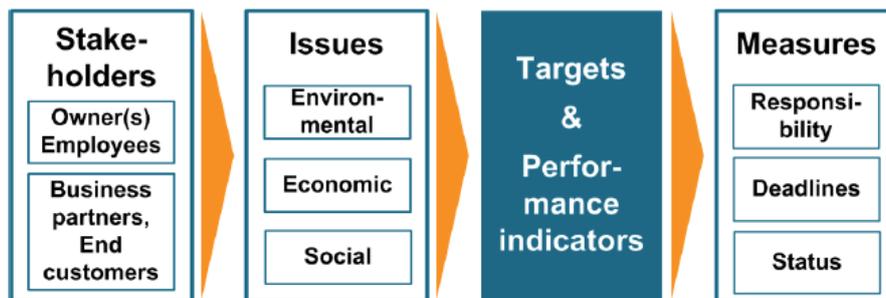


Figure 3 - Continuous improvement process

