

SUSTAINABILITY AND THE ACADEMY

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Originally from Stockholm, Sweden, the concept of sustainability was created at the 1972 United Nations Conference on the Human Environment. Its principles, however, had already been raised the year before, when the document “The Limits of Growth” was published in 1971. This publication sought to generate a narrative based on the reconciliation between the economy and the preservation of the environment. Thus, the concept of sustainability is premised on the basic principle of continuism, since nothing can be sustainable if it is not continuous.

Sustainable development means the continuous and healthy evolution, sustained by the socioeconomic system’s ability not to lose energy, making itself available for future generations. The main limitations of the concept are related to the speed of technological development and the capacity to support natural stocks. These limitations have been accentuated in geometric progression, since the pace of human growth has occurred and continues in the same way. In the last two centuries alone, the advances of the global population and economy have exceeded any previous absolute number (Alves, 2012). Other sources project an average population of 11 billion people by the year 2100 (United Nations, 2015), which could fatally result in natural resource scarcity and consequent crises in the production and management processes of societies.

Within this context, science, whose protagonism belongs to academia, assumes a fundamental role: the constant questioning of the *modus operandi* in all stages of industry and public management. Thus, academia cannot evade responsibility for breaking paradigms and generating innovation, since both are intrinsically linked. The pressure of human activities on the natural balance has stimulated the scientific community to develop production and reuse techniques based on the new concept of circular economy. This concept is based on resource cycling and energy saving, boosting production and resulting in less impact in terms of energy expenditure and waste generation. The circular economy is also based on reverse logistics, which is a set of procedures aimed at the collection and return of solid waste to the productive sector, which is equivalent to the remanufacturing and recycling stages in the circular economy.

Thus, sustainability appears as a polynomial whose numerous interfering parameters must be identified and inserted into the equation. Efficiency is the concept that serves as a background for sustainability, and it is also linked to transport intelligence, exemplified in this edition of S&G magazine as “Food Miles”. The concept of food miles, originating in the UK, has been used to suggest that importing food from distant countries inherently represents more waste than growing and consuming local products (Kemp et al., 2010). Aspects such as production optimization are also addressed in this issue, and are represented in shrimp farming and the use of methods to increase production.

Finally, the publication also addresses the use of technology as a form of strategy for decision-making, which represents a clear example of the use of data to improve effectiveness rates in more efficient management and promotion of sustainability. The management of strategies aimed at sustainability requires from the leader the ability to combine multiple parameters and scales simultaneously. In this sense, technological tools emerge as a catalyst of efficiency (Checkland, 2000).

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