

THE IMPROVEMENT OF THE METHOD ACCORDING TO THE PRINCIPLES OF KAIZEN AND ITS LIMITATIONS

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After the war, in Japan in the 1950's, a set of procedures began to be adopted by the entrepreneurs of the time in search of better results and greater focus on workers. At this moment the Kaizen method, whose meaning is "change for the better", appears. This philosophy was not only limited to the work field but has also become a family and personal habit.

This philosophy advocates the progressive improvement of the capacity of individuals. According to this method, the most adequate path would be through a common objective and the predominance of the collectivity over the individual, always focusing on the human being. In this line, the collaboration and improvement of the community, together with other sustainability measures aimed at reducing waste and costs, ensure the success in productivity and quality of the product offered (Vivan et al., 2016).

On the other hand, Kaizen's philosophy does not prove to be totally effective if the concept of organizational entropy is not considered. According to this concept, in every process of transformation of energy into productive work, a fraction of the energy will be wasted as a result of the organization phase (Rocha et al., 2011). Therefore, there can be no 100% efficient machine because entropy does not allow it. If we understand the human being as part of the productive gear, the organizational entropy would be mainly in the need of cultural change. Pratedwonnakij (2008) evaluated that the problems in the development of Kaizen activities in Thailand came from both the management and its staff. Later, Pratedwonnakij (2009) discusses that issues such as lack of commitment in the completion of plans and lack of competitiveness among workers hinders the implementation of the principles of production improvement. Based on this information, it is assumed that the extension of the Kaizen philosophy to different peoples obliges us to consider organizational entropy in the productivity polynomial (Recht; Wilderom, 2017).

Currently, as a way to optimize production costs, tools such as the Life Cycle Assessment (LCA), or, in Portuguese, "*Avaliação do Ciclo de Vida*", are used to identify environmental risks of existing and planned products, services and manufacturing processes, as well as identify opportunities for strategic improvement (Guinnée et al., 2011). On the other hand, the use of social tools should be considered for minimizing organizational entropy. Among these tools is the performance of stakeholders that percolate the structure of society, making the neutralization of negative reactions to culture change more effective (Sartury et al., 2015).

Nevertheless, questions regarding the adequacy of productivity to environmental sustainability also fit into the context described in this text. Reactions contrary to the adaptation of the current industry to the reality of ecological sustainability are constant since these transformations are also present in the cultural field.

Thus, based on the above concepts, it is evident that human productivity, in the various sectors necessary for their subsistence, is not a simple process. On the contrary, productivity depends on the synergy of several factors that must be considered in depth and together, such as the cells that constitute a living being. Their respective importance in “biochemical” processes is not limited to their apparent size, but to the weight of their “physiological” attributions. History has presented to the most attentive that, with the evolution of societies and productive relations, the improvement of methods through holistic procedures becomes increasingly important in the survival of this “biofilm” which we call humanity.

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