

Novel Evaluation Method for Social Sustainability Affected by using ICT Services

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Information and communications technology (ICT) services are expected to contribute to the realization of a sustainable society because of their strong effects on the “triple bottom line” of the environmental, economic and social aspects of people’s life. Moreover, we believe that not only the triple bottom line but also people’s feelings should be satisfied in a sustainable society.

In order to introduce ICT services effectively, we have to assess their contribution to the realization of a sustainable society quantitatively. Therefore, we proposed a new index, which call the gross social feel-good (GSF) index, with six component indexes, namely environment, economy, safety, health, comfort and happiness. Here, we defined three sub-indexes of safety, health and comfort to express the contribution of ICT services to the social aspects.

The environment index indicates the degree to which the environmental burden decreases. We evaluated this index by LIME (Life-cycle Impact assessment Method based on Endpoint modeling developed by the Japanese LCA Project), which is an original Japanese life cycle impact indicator, because the results can be given as a monetary value.

For the economy index, we selected the cost-benefit performance of the ICT services taking the life cycle cost into consideration.

The safety index indicates the degree to which people and their belongings are safe; the health index indicates the degree to which people are free from disease; the comfort index indicates the degree to which people can live a comfortable life. These indexes were evaluated from statistical data and questionnaire results.

The happiness index indicates degree of satisfaction with society. This index is subjective and evaluated from questionnaire results.

We designed a tree diagram to evaluate the GSF index of ICT services and assessed a certain service.

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