

Analysis of Sustainable E-Logistics Activities with Analytic Hierarchy Process

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ARTICLE INFO	ABSTRACT
<p>Keywords: Environment E-logistics AHP Sustainability</p> <p>Received 10 November 2019 Revised 27 February 2020 Accepted 5 March 2020</p> <p>Article Classification: Research Article</p>	<p>Purpose – The aim of this study is to determine the success factors that are critical for sustaining e-logistics activities with increasing internet shopping. In order to achieve this aim, economic, environmental and social dimensions, which are the three important dimensions of sustainability, have been discussed.</p> <p>Design/methodology/approach – Firstly, a detailed literature review conducted to determine the all impacts of e-logistics activities. Three main and six sub-criteria (transportation, traffic, physical location, energy, land use, cost, packaging, emission and e-waste) were divided into classes according to the triple bottom line perspective. These criteria, are investigated by using Analytic Hierarchy Process (AHP), one of the decision-making techniques, to rank and assign weight of each sub-criteria.</p> <p>Findings – The AHP results showed that carbon emission has the most influence on the sustainability and then physical location is the second most important e-logistics factor. Land use has the lower weight that means, there is a little effect of e-logistics activities and e-waste is almost at the end of the list.</p> <p>Discussion – As a result, this study contributes to both the academia and industry with its novelty to integrate sustainability dimensions with e-logistics operations. Based on the results, the increase in internet shopping significantly increases carbon emissions in terms of environment perspective. In social dimension, it affects the use of physical locations. Consumers are now shopping online rather than shopping at physical stores. Therefore, the stores are closing and socially different consequences arise. When the results are taken from the economic point of view, logistics costs are highly affected. Companies need to close stores and open a warehouse or distribution center.</p>

Suggested Citation

Çakılci, C., Öztürkoğlu, Y. (2020). Analysis of Sustainable E-Logistics Activities with Analytic Hierarchy Process, *Journal of Business Research-Turk*, 12 (1), 489-497.