

# The driving factors of behavior management of E-waste using an approach to the theory of planned behavior



#### **Abstract**

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## Abstract

An understanding of the factors driving behavior management of e-waste is very important to understand. The purpose of this research is to test an attribute theory planned behavior in the context of concern on e-waste. The respondents in this study are 200 respondents from Central Java Indonesia. The analysis used is the structural equation modeling-Partial Least Square (SEM-PLS). To process data is by using WarpPls software version 6. The results of this research show that the attitudes, behavior and perceived knowledge is very influential on improving a person's interest in managing e-Waste. Other results make it clear that a person who has an interest to manage e-waste then it will affect directly on the behavior. Managerial implications in this research were the establishment of community e-waste Manager. The goal is to accelerate society's behavior in managing e-waste. © 2020, SRAC - Romanian Society for Quality. All rights reserved.

#### Author keywords

Behavior; Community; E-waste; Management; SEM-PLS

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# The Driving Factors of Behavior Management of E-Waste Using an Approach to the Theory of Planned Behavior

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#### **Abstract**

An understanding of the factors driving behavior management of e-waste is very important to understand. The purpose of this research is to test an attribute theory planned behavior in the context of concern on e-waste. The respondents in this study are 200 respondents from Central Java Indonesia. The analysis used is the structural equation modeling-Partial Least Square (SEM-PLS). To process data is by using WarpPls software version 6. The results of this research show that the attitudes, behavior and perceived knowledge is very influential on improving a person's interest in managing e-Waste. Other results make it clear that a person who has an interest to manage e-waste then it will affect directly on the behavior. Managerial implications in this research were the establishment of community e-waste Manager. The goal is to accelerate society's behavior in managing e-waste.

Keywords: e-waste; management; SEM-PLS; behavior; community.

### 1. Introduction

E-waste is one of the research topics that are important to researched. Electronics waste or e-waste is often said is that electrical and electronic equipment is disposed of as waste without intent for reuse (Step, 2014). Some of the literature makes it clear that many countries are starting to care for and manage e-waste, among others China, India (Awasthi & Li, 2017), Australia (Golev et al., 2016), India (Saoji, 2012), Europe Union (Awasthi et al., 2018). E-waste has become a worldwide attention (Awasthi & Li, 2017) because it has become a threat and challenge to the sustainability of the Earth. The main problems related to electronic waste management is an improper disposal, causing significant environmental impact (Herat & Agamuthu, 2012).

The growth of e-waste is the negative impact of the development of industrial technology, information, and communications (Saoji, 2012). Electronic goods are developed, applied, sold and used at a very high level all around the world (Imran et al., 2017). E-waste is the waste electrical and electronic equipment is a whole that cannot be processed. The waste residue could either be in the form of tools, equipment, or parts of the already broken and unused again. Some examples of electronic waste are such as computers, LCD, cell phone, refrigerator, television and others. This shit is dangerous because it contains toxic materials that are able to harm human health. E-waste also contains a number of toxic substances that can't be ignored (e.g., cadmium and lead) and thus considered harmful if administered improperly (Bakhiyi et al., 2018).

This research uses the Theory of Planned Behavior (TPB) as a basis. Some research related to e-waste and recycling using basic TPB (Philippsen, 2015). The purpose of this research was to test an attribute theory planned behavior in the context of concern on e-waste. In the current study developed some research questions, namely:

Q1: Does knowledge effect on interest in managing e-waste?

Q2: What is the attitude of the effect on interest in managing e-waste?

Q3: Does the subjective norm effect on interest in managing e-waste?

Q4: What does the perceived behavior control will be effect on interest in managing e-waste?

Q5: Does the interest effect on behavior of managing e-waste?

#### 2. Theoretical Frameworks and Hypotheses

## 2.1. Behavioral and Socio-cultural aspects in E-waste management

In our globalized economy, increasing volumes of used electronics are shipped across national borders. While global and regional regulations prioritize electronics reuse as a prudent approach for conserving resources and reducing environmental toxicity, their effect on cross-border shipping activities of the reuse industry is not well-known. Due to rapid economic growth, faster upgrade of electrical and electronic equipment causes the ever-increasing quantity of waste electrical and electronic products (WEEE). E-waste is one of the fastest growing waste streams in the world in terms of volume and its environmental impact on the planet. The existence of precious metals in the ewaste stream provides a major economic benefit for recycling industries but due to the presence of hazardous chemicals, a proper recycling technique is required prior to the disposal of the e-waste. Through reviewing the present status of e-waste industry and the legal system in China, Wei and Liu's (2012) article analyzing several problems and barriers in China's ewaste recycling industry: (a) illegal e-waste import from developed countries; (b) the booming development of China's informal recycling sectors; (c) informal disposal leading to serious environmental problems and human health impacts; (d) formal companies facing with the problems of severe lack of ewaste; (e) the morbidity of China's regulatory and legal system.

## Sustainability Integration in Supply Chain Management through Systematic Literature Review

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#### **Abstract**

Drafting a systematic literature review on sustainable integration of supply chain and logistics is the main aim of this research paper, given the current needs expressed by academics, managers, and investors. Business sustainability, among all management tasks, heavily depends on successful integration between supply chain and logistics. Scholarly and academic double-blinded peer-reviewed journals, indexed in Scopus and EBSCO, are considered, in a time range between the years 2010 and 2019. Thus, summaries of journals are comprehensively assessed to appraise the integration between Sustainable Supply Chain Management and logistics in business markets. Through this work paper, the procedures behind an effective application of supply chain models are investigated in order to improve knowledge, in terms of recent advancements. The authors develop and carry out an effective business-case analysis, in which the application of Supply Chain Management and logistics procedures led to advancements in the field, therefore their systematic review will be beneficial in terms of a comprehensive current framework provision. According to the analyze explored by the authors, Decision Support Systems and computer frameworks really support business leaders in using Sustainable Supply Chain Management and logistics information and models, further providing specific training. The research paper observed that, indeed, a systematic review is an effective tool that encourages a thorough understanding of the key features related to the specific field. Despite limitations due to a small number of studies carried out on the specific topic, we strongly believe that this research will provide a great contribution to business management, towards an exhaustive, useful, and insightful analysis of the current studies on the integration between Sustainable Supply Chain Management and logistics applications.

Keywords: sustainable supply chain management; systematic literature review; sustainability; corporate social responsibility.

### 1. Introduction

Sustainability in supply chain and logistics had turned into a trendy feature. Nowadays, many drivers can be identified, such as remarkable maintenance quality, operating characteristics typical of a free market framework, and the focus on the socalled vitality, attributable to an extended awareness of the science on the environmental change (Gopal, Thakkar, 2016). These features are significant to managers, since all the stakeholders are progressively asking for a fair assessment of the natural and social impacts due to their performances and activities (Morali, Searcy, 2012; Gopal, Thakkar, 2016). Supply chain experts' perspective is the most advantaged in order to consider the impact of operational decisions on natural and social environment, for instance in terms of suppliers, transportation, vehicle, area, and bundling options. Furthermore, organization usually operates with the input provided by other players, in an interconnected chain that starts from natural resources and ends with the final consumer. The system regulation is called Store Network Administration – SNA (Cetinkaya, et al., 2011), whilst Production Network Administration - PNA involves capacity and development of crude materials, work in process stock, and merchandise production process from the outset to the consumption. Sustainability is one of the main attributes of the so-called Corporate Social Responsibility -

CSR, which embraces natural and social perspectives in management's decisions, considering product and process innovations as a priority in terms of monetary business goals and environmental benefits. For instance pollution and clog due to products' transit, extreme exploitation of limited and precious natural Earth's resources such as land and water, conflicting interests between companies and workers in terms of low salaries and bad working condition in order to boost profits (Schaltegger, Burritt, 2014). Awareness of the importance of efficient and successful inventory network is arising, due to the need to mitigate the negative impact to earth and society (Mosteanu, 2020). It led managers, customers, investors, and international gatherings to prioritize the sustainability of store network (Morali, Searcy, 2012; Gopal, Thakkar, 2016). Different drivers are leading the development of better management tools, useful to ensure customers' mindfulness and companies' positive environmental and social conducts (Morali, Searcy, 2012; McPhee, 2014); country leaders are furthermore oriented to sustainable policies (Gopal, Thakkar, 2016). Hence an increasing number of studies on Sustainable Supply Chain Management (SSCM) and companies already include sustainable practices in their activities (Ashby, et al., 2012; Montabon, Pagell, 2016), covering every single key feature in the SSCM. Essentially, this article aims to provide a systematic review on sustainable supply chain and logistics management, by picking