

Design and management of supply chain and legislation of Electronic waste

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The environment issue from consumer waste and industrial waste has been the global impact. Electronics waste is the currently a largest emergent waste from the modern technology and lack of disposal strategy in the past when technology was invented. Electronic waste is harmful to community from some materials used in products which are hazardous depending on the category. The management of the electronic waste is a difficult and ambiguous until now because of the legislation follows the fast emergent of technology. The well established guideline is only recently developed to control production, sales, use, and dispose of electronic waste and only available in Europe and some developed countries. Yet, more countries are aware of the problem and has tried to follow the same guideline. One of the main limitation of the process is cost consuming recycle and disposal process. The parts of electronics like televisions monitor, computer hard disks, parts, copiers, fax machines, air condition, washer machines, cell phones, and batteries are e-waste and contain potential substances to health problem and causes damage to environment. This paper proposes a study of source at the process from the beginning of the production to analyze the total linkage in order to management and control of waste materials in electronics. Electronic waste is currently the largest growing flow in the world. Not only the disposal after use, but the problem including the illegal import of waste to developing countries like for recycling. The smart phone and computers are the largest source of waste material. The scope of the research is aim to propose the effective model of reverse supply chain and appropriate necessary legislation to manage the electronic waste. Nevertheless, the electronic waste has values such as valuable materials in some parts. Recycling electronic waste products, including the collection, preprocessing, recycling recyclable parts, recycled materials and waste treatment operations but can be good opportunity for recycle business. The total planning of the process from the production through the end of life of products can be seen by reverser supply chain. The conventional reverse supply chain mainly consists of producers and vendors or manufacturers and collectors. The reverse supply chain was modeled mainly by manufacturers, logistics service providers and government legislations to guide and control operators in the key parts. Manufacturers formulate electronics recycling program from the date of purchase until the end of products life including their producers responsibility to the end use of the products. Recycling processes, responsible for the development and application of waste transfer the electronic part with help of law to collect and cooperation with guideline for consumer to dispose the products in collection center or sale points such as retail stores. Logistics Service Providers(LSP). The logistics service providers cooperate with manufacturers, play a role in collection and carriage, collect waste according to the order from customers, and shipped waste mobile phones to detect node specified by the manufacturer