Work Better for Electronic Items in India

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Abstract— the aim of this article is to analyze the interaction among the major barriers, which hinder or prevent the application of reverse logistics in Electronic industries in India. In India Waste electronics equipment has been characterized as one of the fastest growing categories of solid waste. The growth of the electronics sector and the rapid changes in technology mean that more consumers are replacing more equipment more often than ever before. Though the actual volume of electronic waste generated in the India is not tracked, the mountain of used gadgets, computers, televisions and other electronics just keeps growing. A news report estimates a 500% growth over the next 10 years in computer waste in India alone.

Key Words: Electronic Waste, Reuse, Recycling

I. INTRODUCTION

The fast turnover of electronics products is a growing problem for consumers at both ends of the chain of business. At the front-end, changes in electronics technologies and the wide range of telecommunication and other wireless services often make it difficult, if not impossible for consumers to avoid replacing electronic equipment at a rapid pace.

II. APPROACH FOR REUSE AND RECYCLING

We need to promote reuse and recycling of discarded equipment. But consumer awareness of electronic waste recycling options is low, and the infrastructure for reuse and recycling is highly fragmented, inconsistent, inconvenient, and often costly for consumers. As a result, just a small fraction of the total volume of electronic waste is actually collected, and not all the equipment that is collected is actually reused or recycled. Manufacturers have little incentive to redesign products to extend their useful life expectancy and facilitate recycling.

Business Process and Recommendations

Ideal solutions must, at the same time, protect the consumer right to a clean environment as well as a fair and just marketplace. The following recommendations outline the types of changes in government
policies and business practices that are needed to improve consumer recycling options, to remove obstacles to longer product life, artificial drivers of product turnover and barriers to product reuse, and to make products with less toxic and more recycled material.

**Recycling:**

Indian Government action is very important to developing meaningful electronic recycling options for consumers. Government should also introduce new systems like no incentive or additional tax for manufacturers to design products to reduce waste and facilitate recycling. Electronic waste management systems must be transparent about the fate of discarded, refurbished or recycled products.

- Government should provide common system for managing Electronic waste.
- Establish simple process for consumers
- Provide certification for waste and track its impact on the environment
- Monitor Hazardous item recycling and the amount of item disposed in landfills must be reduced.

Producing electronic products with less toxic constituents and more recycled materials is critical.

Increasing consumer education about the hazards associated with disposing e-waste with regular trash can help promote recycling.

Government regulations could help establish time-bound targets for component recycling and the use of recycled materials in new products.

**Support for Equipment Upgrades and Repairs**

- Encourage interchangeable components and support with parts replacement and availability at reasonable price with technical support.
- Provide and enforce quality and safety standards for second-hand and refurbished products.

The functional lifespan of many electronic products is often cut short by design deficiencies and the limited availability of affordable replacement parts and repair services. For example, the lifespan of many products including cell phones, digital cameras, etc. depends on whether the battery is replaced. Often new batteries are priced remarkably high relative to the cost of new equipment, and in many cases the product design requires the consumer to return the item for service in order for the battery to be replaced. Manufacturers must make battery replacement easier and more affordable for consumers.

Provide e waste Information and provide Support for better utilization

- Educate with e waste information’s
- Find out the reasons for product replacement
- Provide better tools and technical support to help consumer for product maintenance, repair and change.

The limited amount of existing information on the quantities of e-waste generated, and its impact on environmental and human health and tax burden is increasingly outdated and based on very rough estimates and projections. Providing consumers with better information of this nature is critical to demonstrating, in a compelling way, how waste reduction, recycling and reuse benefits them and their community directly and is worth their effort and support.
Helping consumers fully exhaust the capabilities of existing equipment before upgrading to new equipment can help reduce the flow of electronic waste. Consumers may be unaware of the options for upgrading an existing computer to meet emerging computing needs, rather than purchasing a new machine. Many consumers may be unaware of the rapid rate of technological obsolescence and economic depreciation of old equipment and not realize that long-term storage only reduces its value for prospective secondhand users. Analyses of the amount of waste stored, the hidden costs of such storage, and consumer attitudes about the relative value of reuse and recycling versus storage will also help increase the amount of retired equipment returned for recycling and reuse.

Eliminate Barriers to Reuse

- Establish new policies for using common instrument for different service providers.
- Provide support to science and technology development for using the existing equipments with modern technologies instead of going for replacement.

A tremendous amount of product turnover results from the power that broadcast and telecommunication or other wireless service providers have to control product configuration and compatibility between products and the systems in which they operate.

For example, cell phone service providers gain competitive advantage by locking handsets to prevent consumers from moving to another carrier. A detailed analysis of these impacts and their full costs is needed to begin to identify ways to design and introduce new technology to minimize product turnover and waste and to incorporate related costs and other impacts into business and regulatory decisions.

III. PRODUCT TURNOVER VS E-WASTE

Large volume of e-waste reflects a high rate of product turnover. Many computers and cell phones are replaced as frequently as every 2-3 years, even though both products generally remain functionally operative for much longer.

Electronic waste is a problem that affects consumers in two ways: when an obsolete product has to be replaced, and when the old equipment is discarded. Beyond the lost storage space, fees for recycling and disposal, and potential environmental contamination from recycling and disposal processes, the cumulative cost to consumers of replacing this equipment at such an unprecedented pace is staggering.

Product Obsolescence

Consumer product obsolescence is a complex source of the e-waste problem. The challenge is to find ways to enable consumers to benefit from technological innovations without generating such a large quantity of waste, and to maximize product life cycles and interoperability across the family of digital products and services that most consumers are using.

Technology changes

Rapid changes in technology further complicate electronics purchasing decisions beyond traditional measures of functionality and durability. The purchasing decision now has become a gamble on equipment compatibility with software, other hardware, and with new technologies coming down the pike. For example, the simple purchase of a new digital camera could escalate into the purchase of a new computer and/or printer in order for the consumer to take full advantage of the camera’s new features.
Problem for Using Old Equipment

Using old equipment and reducing product turnover are not the result of limitations in technology, but of artificial barriers introduced by product manufacturers and service providers to limit consumer choice and maximize a company’s competitive advantage.

Support to Extend Product Life

Also contributing to the rapid rate of product replacement is the lack of built-in, effective tools and technical support to help consumers maintain, upgrade and repair existing equipment. Many consumers may be unaware of the kinds of routine maintenance or repairs (e.g. recovering from viruses, expanding Random Access Memory, deleting unnecessary or obsolete files, etc) that are needed to maximize computer performance; or they may have difficulty making simple repairs. They may lack the skills or tools necessary to perform such tasks, or they may be frustrated with technical support services, and, as a result, replace equipment prematurely.

IV. OPTIONS TO REDUCE AND RECYCLE ARE LIMITED

Once a new product is purchased consumers are reluctant to discard in the trash items that are still functional and that they perceive to be of value.

Once consumers do decide to discard such equipment, finding alternatives to sending it to the local landfill becomes a challenge for even highly motivated consumers. The developing infrastructure for consumer electronic waste reuse and recycling is an incomplete patchwork of programs ranging from infrequent municipal or retailer collection events and manufacturer send back services, to charitable donation programs and fee-for-service operations.

Concerns about the environmental fate of returned equipment and security of personal information embedded in equipment that is recycled or reused may also deter consumers from relinquishing old units.

Government Participation

Government should support to increase reuse and recycling of this growing source of solid waste. Adopt mandatory recycling legislation, approach requires manufacturers to pay for recycling process, which will provide an incentive to design products in ways to promote longer life expectancy and facilitate recycling. Part of taxes should cover costs of transporting equipment l collection from various places and make use it , whereas manufacturers must pay for collected material to be recycled

Private company’s participation

The most reliable private companies recycling programs are offered by several major manufacturers. These companies offer recycling services that allow consumers to obtain a shipping label and send equipment back to the company. Some western companies offer this service is for free or very low cost for customers buying new equipment from these companies.

V. REFURBISHED AND RECYCLED

Reducing e-waste depends on finding ways to “USE” - ensure that discarded equipment gets reused or recycled to make new equipment.
Safe and Reliable

Consumer concerns don’t end once the product is sent back for reuse and recycling. In order for e-waste recycling and reuse to be successful, these products must first and foremost be safe and perform well. But they also must be available, affordable, and compatible with existing equipment. Manufacturer product design practices and warranty policies must enable and facilitate their use.

Safety and quality of new products made with recycled or refurbished components is critically important for increasing markets for recycled equipment.

Barriers to Refurbishing

Software licensing limitations and hardware configurations can serve to make product reclamation cost prohibitive or functionally impossible. For example, companies like Cannon and Epson have used microchips to make it more difficult for other companies to refill or refurbish their cartridges and to make it harder for consumers to use other brand cartridges in their printers. Governments should change these barriers in an effort to promote more competition and bring down prices.

Industry and government standards can play a large role in creating and supporting markets for recycled and refurbished products, and in ensuring that such goods are safe for consumers.

VI. CONCLUSION

It’s an ideal time for the Indian business organizations to realize that a Reverse Logistics system can be used to gain economic advantage. Even the best retailers and vendors now have reason to review their returns program. New technologies and service providers now offer an opportunity to improve overall ‘total returns performance’. This not only reduces the ‘total cost of returns’, but also utilizes returns to improve customer satisfaction and loyalty, reduced repair, replacement unit costs, and product performance. Improving ‘total returns performance’ can transform an increasingly costly and complex process into a competitive advantage. It has forced businesses to reengineer their business processes and look into what can be the next practices in business rather than adopt best practices.

VI. REFERENCES

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AUTHOR’S PROFILE

Mr. Rajasekar is an industry expert and Business consultant, an organization dedicated to developing supply chain software for different industry needs.