

E-waste Management Market in India: Attaining Growth Momentum

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By Vivek Gautam

India's E-waste both a growing problem and an opportunity

Electronic waste or E-waste, as it is more often referred to, is fast piling up in India. This growing E-waste presents a looming environmental hazard as well as a lucrative opportunity. Booming information technology sector, significant consumption of electronic items, and higher rate of obsolescence has all contributed to this. The problem is further compounded by illegal imports of E-waste due to relatively lower labor wages and lax regulatory environment.

A survey conducted by the Manufacturers' Association for Information Technology (MAIT) and GTZ, the German technical collaboration agency estimated that India generated 3.3 lakh tonne of E-waste in 2007. Additionally another 50,000 Metric Tonne (MT) is illegally imported to India. By 2011, E-waste generated in India is expected to touch 4.7 lakh tonne annually.

Chart 1

Indian E-waste Estimate (2007): Breakup by category across three levels



Source: MAIT - GTZ Survey

E-waste typically includes discarded computer monitors, motherboards, cathode ray tubes, printed circuit board, mobile phones, PVC coated wires, capacitors & transistors, glass bulbs,

tube lights, and so on. These components contain harmful chemicals such as lead, mercury, cadmium, arsenic, flame retardants and so on. Disposal of these in an environmentally sound manner require certain degree of technical know-how. If left untreated or treated in unsafe manner, these chemicals pose severe threat to human and other life forms. As there is good money to be made by recovering reusable components and recycling valuable metals, traditional waste collectors and recyclers or Kabadiwalas have been quick to spot the opportunity. A complex unorganized E-waste recycling infrastructure has developed. However, this unorganized sector suffers from several limitations.

Market structure and drivers for change

Currently E-waste management market in India is dominated by informal sector, which includes waste importers, scarp dealers, dissemblers, and recyclers. The existing setup and practices followed across the entire value chain present immense scope for improvement. It is expected that E-waste management market in India will become increasingly organized. Most important drivers for this change are:

- Concerns about data security: E-waste is not completely useless; many of the components may contain sensitive information. Concerned about the information security several companies show reluctance in discarding E-waste to unorganized sector. Such companies will prefer to deal with organized participants with brand equity in terms assurance for data safety.
- Capacity constraints: The informal sector is characterized by small workshops which can not handle large quantity of E-waste in one go. This denies them benefits of economies of scale; for instance, adoption of better technologies which will be viable only for certain minimum quantity of waste to be treated. In addition, this is a significant constraint for them to tap the corporate consumers who would prefer to deal with one integrated service provider.
- Deficient collection system and weak recycling infrastructure: Only about 28.3 percent of the total waste generated in 2007 was available for recycling. This is due to high rate of refurbishment and reuse in India. However, this is also partly attributable to lack of proper collection system in place and weak recycling infrastructure. The Government is keen to promote setting up recycling facilities in public private partnership (PPP) mode.
- Lack of access to appropriate technology: The unorganized recyclers deploy unsafe and crude techniques to recover valuable material from the waste. Open burning of printed wire boards, soaking in open acid baths, and manual scraping to extract copper are quite common. Not only these are highly inefficient processes but also present occupational hazard for workers in the sector. Personal protection equipment such as respiratory masks, gloves, safety goggles, and so on is not provided to workers while carrying out these operations.
- Creating enabling environment through policy interventions: India is party to Basel Convention on trans-boundary Movement of Hazardous Waste. E-waste is classified as hazardous waste. Several steps are being taken to fulfill the Basel Convention obligations of minimization, environmentally sound management, and promoting technology transfer for the sector. Registration with the Central Pollution Control Board (CPCB) of facilities handling and recycling hazardous waste has been made mandatory. A number of awareness campaigns and workshops have been organized to create awareness among the corporate and household consumers.
- Increasing conscious effort by manufacturers to tackle E-waste: Many computer and mobile phone manufacturers are taking conscious steps toward responsible recycling of E-waste. Recently, Nokia has launched an E-waste reduction campaign. As part of the campaign waste collection bins have been installed at Nokia care and Nokia priority dealer outlets. These collected phones are then recycled. Dell computers has put in place

a global electronics disposal policy, which bans the import of non-working electronics parts to developing nations.

These factors are expected to push the growth of large integrated participants. The shortcomings of the unorganized sector provide ample opportunity for organized sector participants to build a strong value proposition.

E-waste management market set for extraordinary growth

Recent Frost & Sullivan's study titled "**Indian Waste Management Services Market**" estimates the Indian E-waste management market for 2008 to be INR 510 million. This, however, represents the total revenues of authorized E-waste recyclers, which is only a small portion of the overall market. Buoyed by these strong drivers the market for authorized E-waste recyclers is anticipated to grow at CAGR of 24.02 percent and touch INR 1,496.5 million by 2013.

Presently there are about 15 small to medium-sized companies operating in this market. There is growing interest of venture capitalists and private participants in the sector. One of India's leading environmental sector company Ramky Enviro Engineers Ltd. along with Singapore based Cimelia is setting up an integrated E-waste management plant. Many of the smaller organized participants are planning to strengthen their collection network and expand waste handling and recycling capacity. Some are seeking financing from venture capitalists to tap this growing market. The market is replete with opportunities across the value chain and all set to witness a phase of extraordinary growth.

For further information contact, Ravinder Kaur, Corporate Communications,
ravinder.kaur@frost.com or +91 9940141714