

**Environmental Sustainability and the Electronics Industry:
Corporate Responsiveness to Activist Campaigns against Electronic Waste**

Jessica Edge

Ph.D. Candidate
Department of Political Science
McMaster University
Email: edgejl@mcmaster.ca

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In recent years the rapid obsolescence of high-tech gadgetry has received increasing attention, as the disposal of used electronics, such as computers and cellular phones, has created massive amounts of electronic waste (e-waste). E-waste contains hazardous substances such as lead, mercury, cadmium, and brominated flame retardants (BFRs) that make it harmful to both humans and the environment if disposed of improperly.

Electronics contain numerous materials and parts that are difficult to recycle and require specialized facilities to ensure they are properly recycled. E-waste is often illegally shipped to parts of the developing world, such as China, India, and Nigeria, where environmental and labour regulations are weak or poorly enforced.

To address the problem of e-waste a global network of activists has emerged (hereafter referred to as the e-waste network). In seeking to address the problem of e-waste, the e-waste network has adopted a two-prong strategy: targeting states to pass legislation to ensure the safe recycling of used electronics and restrict the use of hazardous substances in electronics; and targeting electronics manufacturers to phase toxic materials out of their products and take their products back at the end of their useful life. This paper will primarily focus on the corporate component of the e-waste campaign. While the responsiveness of electronics manufacturers to the demands of activists has varied, the e-waste network has had considerable success in recent years and many electronics manufacturers now offer voluntary take back for old electronics where take-back is not legislated and are voluntarily eliminating certain toxic substances from their products.

The e-waste network's focus on electronics manufacturers is part of a larger shift amongst activists towards corporate campaigns as states have become less willing and/or able to regulate corporations. Scholars have begun to pay increasingly attention to the relationship between social movements and corporate actors and the circumstances that make a corporate actor vulnerable to social movement tactics (Haufler 2001; O'Rourke 2005; Schurman 2004; Trumpy 2008). This paper uses the case of e-waste to examine the evolution of the relationship between activists and corporate actors.

Using the concept of an industry opportunity structure this paper examines a number of characteristics that influence the vulnerability of corporations to activists, as well as the extent to which corporations choose to engage with activists. I argue the organizational characteristics of the electronics industry made it an appealing target for the e-waste network. However, individual electronics manufacturers have varied in their responses to the e-waste network due to a variety of economic factors and differences in corporate culture. These factors have shaped electronic manufacturers' internal environmental policies, as well as the manner in which they have chosen to engage with the e-waste network. As the e-waste network's corporate campaign has evolved, some electronics manufacturers have become more willing to dialogue with the network, and in certain cases the e-waste network and some electronics manufacturers have worked together in pursuit of common goals.

This paper will first describe the concept of an industry opportunity structure, and the factors that are theorized to make a corporation vulnerable to activist tactics. It briefly outlines the issue of e-waste and introduces the e-waste network. This paper then discusses the e-waste network's corporate campaign. It examines the characteristics that shaped the responsiveness of electronics manufacturers to the e-waste network and the willingness of manufacturers to engage with the network. Finally, I discuss what the e-waste network's campaign suggests for the evolution of corporate campaigns. In examining the e-waste network this paper utilizes news articles, documents from corporations and non-governmental organizations (NGOs), as well as extensive interviews with e-waste activists and representatives from major electronics manufacturers and industry associations.

Corporate Campaigns and Industry Opportunity Structures

As corporations have expanded their operations beyond national borders, corporate outsourcing of manufacturing has led to the devolution and contracting out of many elements of a transnational corporation's (TNC) supply chain and has expanded corporate activities into new markets around the globe. The expansion of corporate activity coupled with the rise of neoliberalism in the 1980s and 1990s increased the power of corporations, and states became less willing and/or less able to regulate corporate activities (Seidman 2007; Trumpy 2008, 482). States now compete to attract foreign direct investment (FDI) through the creation of a business friendly environment (Levy and Prakash 2003, 141). Command and control style environmental policies have become less popular due to the costs associated with implementing and monitoring such programs and criticisms they create unnecessary red tape for business. They are being bypassed in favour of more innovative and flexible approaches to environmental regulation, which focus on pollution prevention throughout the production process rather than end-of-pipe pollution reductions (Prakash and Potoski 2006, 5-10). States, wishing to curb corporate externalities without decreasing their own competitiveness and ability to attract FDI, have encouraged corporate social responsibility initiatives (CSR) and forms of private regulation.

Activists have altered their tactics in response to this changing regulatory climate. While previously civil society organizations preferred to pressure states to create change, many activists have concluded that governmental bodies are too susceptible to business interests and unwilling or unable to implement effective regulatory measures (Prakash 2007, 130; Spar and La Mure 2003; Trumpy 2008). Many activists are now targeting corporations instead of or in addition to trying to create legislative change, as they feel that getting large corporations to change their policies can often be easier than changing public policies (Vogel 2005, 10-11).

The concept of an industry opportunity structure can be utilized to explain the vulnerability of firms to activist campaigns. The concept of an industry opportunity structure is derived that of a political opportunity structure. The literature on political opportunity structures argues the emergence and effectiveness of a social movement depends largely on factors in its external environment including: the relative openness or

closure of the institutionalized political system; the stability of the broad set of elite alignments; the presence or absence of elite allies; and the capacity and propensity of the state for repression (Marks and McAdam 1999; Tarrow 1998). The political opportunity structure literature made an important contribution to the social movement literature in recognizing the impact of a social movement's external environment on its success. However, it also focussed attention on the state as the primary target of activist tactics, thereby undermining the importance of other non-state targets, such as corporate actors (Schurman 2004; Walker, Martin and McCarthy 2008).

As civil society groups have shifted their attention to corporate actors, the concept of an industry opportunity structure has become useful in explaining the effectiveness of activist campaigns. As Schurman states,

...industry structures' confer particular strategic openings and closures on social movements and render firms and industries more or less vulnerable to social movement actions. At any given moment, such industry structures will appear as exogenous to social movement challengers, but like all social structures, they are socially constructed and transformed over time as different groups of interested actors, regulatory and normative institutions, and cultural practices interact. Industry structures are thus deeply embedded in existing institutional practices and relationships, the larger political economy, and culture, operating at a variety of levels (e.g., within industries and firms, within regulatory institutions and professional organizations, at the level of the broader society) (2004, 248).

This paper will focus on organizational, economic, and cultural factors in explaining the vulnerability of electronics manufacturers to the e-waste network.

The organizational nature of an industry significantly impacts on its vulnerability to activist tactics. Industries that are made up of a small number of large firms can be easier for activists to target than industries that consist of a large number of small firms. In targeting industries that consist of a small number of firms activists are able to concentrate their tactics, monitoring, and communications on a smaller number of actors, which may be helpful in communicating their messages to the public and the media and allow them to make the best use of their limited resources. Depending on their geographic focus, NGOs may also prefer to target businesses that operate nationally or transnationally as these types of campaigns allow NGOs to run national or global campaigns and if they are successful may potentially create national or global change in an issue area. Industries with a close connection to consumers are also much more vulnerable to activist tactics due to their greater visibility to the general public than upstream industries that sell primarily to other firms (Luders 2006; Schurman 2004; Seidman 2007, 31). Downstream industries selling consumer products can also be pressured to alter their relationship with upstream suppliers whose activities activists may wish to change, but whose indistinctive and often fragmented nature may make them less vulnerable targets (Schurman 2004; Zadek 1998, 1423).

Economic factors have a significant impact on the vulnerability of a given industry. Companies can be expected to evaluate the costs associated with ceding to activists' demands, and where doing so would involve significant transaction costs, companies may

find it too prohibitive to comply (Spar and La Mure 2003, 84). However, a company may view a positive reputation for social responsibility as a competitive advantage or it may allow a company to capture a niche market (Spar and La Mure 2003, 84; Zadek, Pruzan and Evans 1997). In industries that are highly competitive, companies may also adopt CSR policies with the hope that they will be able to increase their market share. Once one company adopts policies demanded by activists other companies in an industry may also feel pressured to follow suit or risk alienating customers and losing market share. This occurs in part because once one company responds favourably to activist demands, they illustrate that it is possible to do business while still addressing those demands (Schurman 2004; Zadek 2007).

Corporate brand and reputation also affect the vulnerability of corporate actors. Many companies are now built around their brands and rely on their brand to differentiate them from their competitors and to appeal to consumers. A well-known and highly visible brand can make a company more vulnerable to activist campaigns. As Bennett and Lagos state, “Logo politics rely on the corporate target’s having already done the difficult and costly work of reaching its consumer audience with branding. The brand is the key because, increasingly, what is being sold by corporations is less the product than the brand image....A brand’s familiarity keeps loyal customers coming back despite growing competition, but it may also make them pay attention when disturbing messages are attached to it” (2007, 195-196; see also Conroy 2007).

A positive reputation for CSR can also make a company more vulnerable to activist tactics, as a company may be seen as more likely to respond favourably to the demands of activists in order to maintain its reputation. Contrasting a company’s social or environmental practices against its ‘progressive’ reputation can serve as an effective tactic for activists (Spar and La Mure 2003, 84). A company that changes its policies in response to public and activist pressure may be viewed as more responsive to activist campaigns, thereby making it a more appealing target in the future (Vogel 2005, 54). Activists need not impact financially on a company for it to feel that its reputation and brand are being negatively impacted. As Vogel states, “Although protests rarely affect sales or share prices, the NGO strategy of ‘naming and shaming’ has often been effective. Many companies now regard it as in their self-interest to be, or at least appear to be, responsive to NGO and media criticism, lest their reputations suffer significant damage” (Vogel 2005, 52).

A company’s internal culture also shapes how it approaches CSR. The views of a company’s high-level management or CEO can play an important role in shaping how it approaches CSR and responds to activist campaigns. Some managers may view themselves as environmentally and/or socially progressive, and believe their company should also be viewed as progressive. CEOs that personify their company and their brand are also vulnerable to activist campaigns, due to a high public profile and a close association with their company.¹ As Spar and La Mure argue, “Particularly at the highest levels, managerial preference can make a significant difference....managers may actually sympathize with an NGO’s cause, even if they don’t necessarily agree with the group’s

¹ Interview with e-waste campaigner, April 22, 2009.

tactics....When corporations are run by particularly charismatic CEOs or dominated (both managerially and financially) by a particular individual or family, the sway of personal preference becomes especially strong” (2003, 85; see also Prakash 2000).

Employees within a company can also push for more responsible corporate behaviour, and sometimes internal pressures from employees can serve to reinforce external pressures, such as if employees become embarrassed to work for a company accused of poor environmental and social behaviour (Vogel 2005, 52). In the case of environmental issues, the growth of environmental departments in companies has also helped to make companies more responsive to demands made by the environmental movement. Environmental departments may be more sympathetic to environmental concerns and seek to advance an environmental agenda that complements the goals of activists (Prakash 2000, 66-67).

Industry opportunity structures, encompassing organizational, economic, and cultural elements play a pivotal role in determining the success of corporate campaigns. In the case of the e-waste network, the concept of an industry opportunity structure explains why the network has been able to alter the behaviour of many electronics manufacturers to make advances in addressing the problem of e-waste.

E-Waste and Environmental Degradation

E-waste is growing at an exponential rate and electronics now account for five percent of all municipal solid waste worldwide, nearly the same amount as all plastic packaging (Electronics TakeBack Coalition 2010; Greenpeace 2010). The growth of e-waste has largely been fuelled by mass consumption and the rapid obsolescence of many electronics.² While a substantial amount of e-waste ends up being improperly disposed of in landfills, a large proportion of e-waste is also intended for recycling. Recycling e-waste is a difficult and expensive process that involves both manual labour and sophisticated machines to separate and disassemble used electronics (Iles 2004, 80). E-waste recycling has a transnational component as some recyclers illegally ship used electronics to developing regions, such as the Guiyu area in South China, Bangalore and Delhi in India, Ghana, and Lagos, Nigeria. The export of e-waste is prohibited by international law through the Basel Convention, which regulates toxic waste. However, e-waste exports often will be illegally and misleadingly labelled for reuse or refurbishment, and enforcement of e-waste laws is often lax in many exporting and importing countries. The effectiveness of the Basel Convention is further undermined by the fact that it has not been ratified by the U.S. (Puckett 2006).

Processing zones for illegal e-waste exports in developing countries sort e-waste and remove valuable materials, including gold and copper, using primitive methods such as

² The rapid obsolescence of the electronics industry is well documented. To win market share and ensure ongoing growth electronics manufacturers put a premium on new designs that remake a product line every two to three years. The average lifespan of computers in developed countries dropped from six years in 1997 to just two years in 2005. Cellular phones have a lifecycle of less than two years in developed countries. See Greenpeace 2010; Slade 2006.

open-air burning and acid baths. This is highly problematic because if e-waste is not properly handled hazardous substances contained in e-waste can contaminate soil, groundwater, and air; adversely affecting workers and the surrounding environment. E-waste processing zones in these regions are generally indifferent to labour, health, and environmental standards, and are difficult to regulate because they are small, numerous, and straddle the informal sector (Agerwal and Wankhade 2006; Basel Action Network and Silicon Valley Toxics Coalition 2002; Grossman 2006).

The E-Waste Network

The e-waste network formed in the late 1990s in response to growing concerns about e-waste and the environmentally unsustainable nature of the electronics industry. The network is closely related to the environmental movement and involves NGOs concerned with issues such as waste reduction, toxic chemicals, environmental justice, labour rights and environmental health. NGOs active in the global e-waste network include: the Basel Action Network (BAN), the Silicon Valley Toxics Coalition (SVTC), the Center for Environmental Health (CEH), Clean Production Action (CPA), the European Environmental Bureau (EEB), Toxics Link India, and Greenpeace. The Electronics Take-Back Campaign (ETBC), formally the Computer Take-Back Campaign (CTBC), was founded in 2001 and acts as a key node in the e-waste network. Its membership includes significant members of the e-waste network such as BAN, SVTC, CEH, and CPA (Electronics TakeBack Coalition 2010). Greenpeace has also had an active e-waste campaign since 2004.

The e-waste network has argued for better regulation of e-waste recycling and for toxic substances such as polyvinyl chloride (PVC) and BFRs to be voluntarily phased out of electronics. By phasing toxics out of electronics activists hope to make these products safer for consumers and easier to recycle. The concept of extended producer responsibility (EPR) is central to the e-waste network's campaign. EPR requires producers to take back their products at the end of their useful life so that the producer internalizes the costs of disposal into the cost of the product. The aim of EPR is to incentivize more sustainable product designs that are easier and safer to recycle and reuse. In the case of e-waste, activists have argued for individual producer responsibility (IPR), which occurs when a producer takes responsibility for the end of life management of their own brand products, whereas collective responsibility involves producers sharing the costs of managing end-of-life products based on market share and regardless of brand name. IPR more effectively encourages sustainable product designs because the feedback loop to the producer is more efficient in rewarding design change through lower costs at end-of-life (Raphael and Smith 2006; Thorpe, Kruszewska and McPherson 2004; Van Rossem, Tojo and Lindqvist 2006). In addition to advocating for the implementation of IPR, the e-waste network has also focussed its arguments and frames on the exploitation of vulnerable populations involved in e-waste processing in developing countries, the environmental degradation caused by mass consumption, and the harm posed by chemical substances in consumer products.

In seeking to increase the sustainability of the electronics industry the e-waste network has adopted a two-prong strategy that consists of a legislative campaign and a corporate campaign. The legislative component of the campaign has focussed on getting producer take-back laws passed by national and regional governments. The e-waste network supported the creation of the Waste Electrical and Electronic Equipment (WEEE) Directive and the Restriction on Hazardous Substances (RoHS) Directive, which were passed in 2002 and came into force in February 2003. The passage of these directives was strongly opposed by many electronics manufacturers. Both directives cover a wide range of electrical equipment including computers and large and small appliances. The WEEE Directive covers the take-back of used electronics and includes the concept of IPR. The RoHS Directive complements the WEEE Directive and limits the use of six toxic substances in electronics (European Commission 2006; Selin and VanDeveer 2006).³

The WEEE and RoHS Directives have had a considerable impact beyond the EU. The RoHS Directive has had a global impact as electronics manufacturers typically design and produce their products for global markets as opposed to regional markets. Electronics manufacturers do not want to produce multiple product lines for different countries, so manufacturers have implemented the RoHS Directives' restrictions across their global product lines (Raphael and Smith 2006, 248; Selin and Van Deveer 2006).⁴ Outside the EU, the WEEE Directive has allowed activists to illustrate producer take back was financially feasible for electronics manufacturers, thereby highlighting a double standard in the industry's behaviour.⁵

In the U.S., the e-waste network has viewed the political opportunity structure at the federal level as particularly unwelcoming due to the anti-environmental and deregulatory rhetoric of the previous George W. Bush Administration, and more recently the current economic downturn and focus on climate change. Therefore, activists in the U.S. have focussed on getting state legislatures to pass e-waste bills which include IPR (Wood and Schneider 2006, 287). State level legislation has been passed in 20 states and New York City. With the exception of California, all state laws include a producer responsibility approach (Electronics TakeBack Coalition 2010c). The growing number of state-based e-waste laws has been a challenge for electronics manufacturers as each law differs slightly in its requirements. Due to this patchwork of state-based legislation, and the success of the e-waste network's corporate campaign, electronics manufacturers have altered their position on the creation of a federal e-waste bill. While electronics manufacturers in the

³ RoHS bans the use of four heavy metals (lead, cadmium, mercury, and hexavalent chromium) and two types of brominated flame retardants (PBBs and PBDEs). A few applications of these substances were temporarily exempted until their substitution becomes scientifically and technically feasible (European Commission 2008b).

⁴ The global impact of RoHS can also be seen in RoHS type regulations proposed in other countries. The electronics industry has actively lobbied states that wish to implement RoHS type regulations to implement regulations that are identical to that of the EU. For example, California's RoHS regulation was very closely based on the EU regulations will evolve along with the EU's regulations. The industry is concerned that if multiple regions adopt variations on RoHS it will be forced to produce slightly differently products for multiple markets. Phone interview with e-waste industry representative, September 16, 2009; phone interview with e-waste campaigner, November 6, 2009.

⁵ Interview with e-waste campaigner, April 21, 2009.

U.S. opposed a federal e-waste bill at beginning of the 2000s, the majority of electronics manufacturers now support the passage of a federal e-waste bill that includes some form of producer responsibility.⁶

The legislative component of the e-waste network's campaign has been complemented and strengthened by the network's corporate campaign. The corporate component of the campaign has focussed on getting electronics manufacturers to take-back their products at the end of their useful life, endorse the principle of IPR, and phase out the use of toxic substances (Electronics TakeBack Campaign 2010b). This paper will now turn to an examination of the corporate campaign against e-waste which has complemented and strengthened the legislative component of the e-waste network's campaign, and helped to shift the position of the industry on e-waste.

The E-Waste Network's Corporate Campaign

Corporate campaigns can serve as a stepping stone to legislative change.⁷ By getting major corporations to change their policies in response to activist demands, civil society organizations can gain valuable allies when lobbying for legislative change. If activists can successfully alter corporate behaviour, they can show legislators and other corporations that the changes they are demanding are technologically possible and economically feasible. By altering the behaviour of one or a couple of corporations, activists can also potentially divide an industry and diminish its influence. In the case of e-waste, activists have viewed the electronics industry as more vulnerable than the political opportunity structure in many states. As one e-waste activist stated, "The ultimate goal is stricter environmental regulation because it is the only way to bring all companies up to the same level. But it is a much easier road to stronger environmental regulation to have some companies leading the way and willing to tell some politicians that they are leading the way and also want legislation. Rather than giving the business community one voice against regulations."⁸

Unlike many other corporate campaigns that have targeted retailers, the e-waste network chose to focus on electronics manufacturers. For the CTBC the decision was based in part on the fact that it was the electronics manufacturers whose practices were the primary problem, as opposed to retailers. The CTBC felt that "In a campaign pushing for EPR and end-of-life take-back, a focus on retailers would divert attention from the entities with the greatest control over the problem and the solution—the producers and the brand owners" (Wood and Schneider 2006, 287). For Greenpeace the global nature of the electronics industry was also appealing as it allowed the organization to run a global campaign,

⁶ While there continues to be substantial disagreement between the e-waste network and the electronics industry as to the character of a federal e-waste bill, this shift represents a significant change in the industry's position. Phone interview with electronics industry association representative, September 3, 2009.

⁷ In some cases corporate campaigns may also lead to private certification systems, rather than government legislation. In the case of e-waste, the network and the recycling industry have developed a certification system for e-waste recyclers in the U.S., but there are no plans within the e-waste network to introduce any kind of certification for electronics manufacturers.

⁸ Interview with e-waste campaigner, October 28, 2009.

while a campaign that targeted electronics retailers would have had to be country or region specific.⁹

The electronics industry was also an appealing target for the e-waste network because of its innovative nature. As it is continually designing new products, activists felt the industry could more readily incorporate environmental considerations into product design, and would be able to implement design changes relatively quickly (unlike an industry with longer lead-times for product design such as the auto industry).¹⁰ The highly globalized nature of the electronics industry also means advances in the eco-design of products are likely to be implemented globally, as was exhibited by the corporate response to the RoHS Directive.

The electronics industry also consists of a relatively small number of companies, making it easier for activists to conduct actions, monitor their behaviour, and communicate with company representatives. The industry is highly competitive and electronics manufacturers' market shares change regularly. This creates incentives for companies to compete to go green in hopes of gaining new customers, and makes companies more susceptible to consumer pressure.¹¹ The electronics industry has also been targeted by NGOs, such as Greenpeace and CPA, because it allows the chemicals industry to also be indirectly targeted for its use of halogenated substances such as PVC and BFR. The chemicals industry is difficult to target directly, in part due to its lack of direct ties to consumers. In contrast, electronics companies have a direct relationship with consumers and can push their suppliers develop substitutes for toxic chemicals.¹²

In targeting electronics manufacturers e-waste activists have utilized a variety of tactics that have aimed both at the electronics industry as a whole and at individual companies. The e-waste network has released a variety of reports that have highlighted the detrimental impact of e-waste on vulnerable populations. Reports such as *Exporting Harm: The High Tech Trashing of Asia* (2002) and *The Digital Dump: Exporting Re-use and Abuse to Africa* (2005) and their accompanying documentaries highlighted the health problems and environmental degradation cause by illegal e-waste exports.¹³ These reports used scientific data on the state of soil and groundwater in e-waste processing zones along with vivid photos of workers (including children) dismantling e-waste in primitive conditions with no safety equipment. These reports also highlighted both electronics manufacturers' logos and government ID tags found on illegal exports in order to pressure these actors to change their practices with regards to e-waste disposal (Basel Action Network and Silicon Valley Toxics Coalition 2002; Basel Action Network 2005).

⁹ Interview with e-waste campaigner, October 29, 2009.

¹⁰ However, it is important to note, that while the fast pace of product design in the electronics industry made it an appealing target for activists, the pace of product design has also been one of the main factors in the rapid obsolescence of electronics.

¹¹ Interview with e-waste campaigner, October 29, 2009; phone interview with e-waste campaigner, November 6, 2009.

¹² Phone interview with e-waste campaigner, November 6, 2009.

¹³ Greenpeace has also released a number of expert reports documenting the detrimental effects of e-waste. See Greenpeace 2005a; 2005b; 2008.

In addition to releasing numerous reports highlighting the impact of e-waste on vulnerable populations, the e-waste network also ranks electronics manufacturers on the sustainability of their products. The CTBC released a ‘Computer Report Card’ in 2001 that compared and contrasted electronics manufacturers on their products’ sustainability. The CTBC subsequently released several updated versions of the report card (Computer Report Card Released 2001; Konrad 2003; Wood and Schneider 2006). Since 2006, Greenpeace has published its Guide to Greener Electronics several times a year. The guide ranks major electronics manufacturers on criteria such as their endorsement of IPR, the voluntary phase out of hazardous chemicals, energy efficiency, and availability of free take-back programs for old products (see for example Greenpeace 2009a). These reports contrast the leaders and the laggards in the electronics industry. They highlight which companies are not living up to their environmental commitments, and put pressure on companies to compete to become more environmentally sustainable.¹⁴ Many electronics manufacturers feel the rankings have had an impact on their public image and try to increase their scores in the guide through actions such as publicly endorsing IPR.¹⁵

Both types of reports, those that rank companies and those that illustrate the consequences of illegally exported e-waste, have helped to bring media attention to the issue. In addition to the human aspect of the issue, the electronics industry makes an interesting story for the media, because the companies involved are household names and much of the e-waste illegally exported may have been intended for proper recycling by consumers. Media attention through multiple newspaper stories, as well as television programs such as 60 Minutes, Frontline, and CBC News, has helped to both educate the public about e-waste and pressured electronics manufacturers to improve their environmental policies in this issue area.

Corporate Campaigns against Individual E-Waste Manufacturers

In addition to drawing attention to the unsustainable practices of the electronics industry as a whole, the e-waste network has singled out individual electronics manufacturers. The e-waste network has focussed on targeting companies it perceives to be most vulnerable. Once the network has been successful in pressuring a company to change its behaviour, they have shifted their focus to another electronics company, while continuing to monitor and in some cases dialogue with past campaign targets.

In March 2002, the CTBC launched a campaign against Dell, which had scored poorly on its 2001 Electronics Report Card. The e-waste network demanded Dell take back its old products for free and responsibly recycle them, including no longer using prison labour in its recycling operations (Konrad 2003; Wood and Schneider 2006).¹⁶ The network raised questions at shareholder meetings and staged protests at events where Dell’s founder and

¹⁴ Interview with e-waste campaigner, October 28, 2009.

¹⁵ Phone interview with environmental campaigner, October 14, 2009; Phone interview with electronics company representative, December 1, 2009.

¹⁶ The use of prison labour made Dell vulnerable to the e-waste network. Dell initially contracted its e-waste recycling to UNICOR who processed e-waste in federal prisons under unsafe working conditions. HP did not use prison labour in its e-waste recycling operations, so activists were able to unfavourably compare Dell with a major competitor.

CEO Michael Dell appeared, as well as industry events. It also used creative tactics to gain media attention, such as staging an e-waste fashion show outside a dress store owned by Michael Dell's wife (Wagner 2003).

In October 2003, Dell executives along with executives from HP publicly voiced support for producer responsibility and began a dialogue with the e-waste network about their environmental policies.¹⁷ In response to the network's Dell campaign and the continuing pressure placed on the electronics industry as a whole, Dell now offers free take-back for all Dell branded products, and will also take back another brand of computer with the purchase of a new Dell brand computer (Dell 2010a). Dell is also working to voluntarily phase BFRs and PVCs out of its products by 2011, and has placed some BFR and PVC free products on the market (Dell 2010b).

Following the Dell campaign, in January 2005 the CTBC launched a campaign against Apple at the MacWorld convention in San Francisco. The CTBC initiated a postcard campaign, showed up at a shareholder meeting, and staged protests at events where Apple CEO Steve Jobs was present (Chmielewski 2005; Schoenberger 2005). In summer 2006 Greenpeace launched its "Green My Apple" campaign, which included a website designed to look like Apple's where fans of the company could call on it to be an environmental leader in the industry. Activists also visited Apple stores and Apple events to spread their message to the company's customers (Greenpeace 2006).

Apple did not respond to the demands of the e-waste network throughout the duration of the campaign, but on May 2, 2007 the words "A Greener Apple" appeared on the front page of Apple's website and a message from Steve Jobs announced that the company was changing its environmental policies. Apple would phase BFRs and PVCs out of its products by 2008, as well as offering free-take back for Apple products in the U.S. (Greenpeace 2007). Since that time Apple has expanded its voluntary take back program and has phased PVC and BFR out of its products (except in countries where the certification of PVC-free power cords is still ongoing). The company has also become more forthcoming about its environmental practices, publically releasing its annual corporate carbon emissions (although the method used to calculate emissions has faced some criticism) (Apple 2008; Burrows 2010a).

In early 2008, Greenpeace began targeting Philips for its position on e-waste. Unlike many other electronics manufacturers at the time Philips did not have a voluntary take-back programme for its products. The company also stood out amongst the industry because it actively lobbied against EPR. The e-waste network utilized a variety of protest tactics similar to those described above, such as "returning" e-waste to Philips' corporate offices worldwide and protesting outside shareholder meetings (Greenpeace 2008). In February 2009, Philips announced that it would take back its old products and assume financial responsibility for recycling them (Greenpeace 2009b). In addition to Philips, the e-waste network has also periodically targeted HP to improve its environmental policies. Most recently Greenpeace protested against HP for backtracking on its commitment to

¹⁷ For a detailed account of the Dell campaign see Electronics TakeBack Coalition (2006); Wood and Schneider (2006).

produce PVC and BFR free computers by 2009 (Greenpeace 2009c). In addition, the network continues to monitor the electronics industry as a whole on its environmental policies, including its support for IPR and its progress on voluntarily phasing toxic chemicals out of its products.

The e-waste network's corporate campaign has pushed the electronics industry to become more environmentally sustainable. Most major electronics manufacturers now offer some form of producer take-back and a number of companies have made commitments to work towards voluntarily phasing out BFRs and PVCs. Due to the bad publicity generated by the e-waste network, and media reports showing brand name electronics illegally exported abroad, the electronics industry has also become an opponent of illegal e-waste exports.¹⁸ Both industry representatives and activists within the e-waste network agree that the electronics industry would not have adopted the approach it has towards e-waste had it not been for the e-waste network's corporate campaign. As one representative from an electronics industry association stated, "...certainly the pressure and education from environmental groups has, has provided an incentive for companies to do more."¹⁹ The openness of the industry opportunity structure was a significant factor in the e-waste network's success in pressuring the electronics industry.

Explaining the Success of the E-Waste Network

The success of the e-waste network can largely be attributed to the network's ability to utilize vulnerabilities in both the electronics industry as a whole and individual electronics manufacturers. Economic characteristics played an important role in the e-waste network's decision to target particular electronics manufacturers. The extremely competitive nature of the electronics industry aided the e-waste network's strategy of contrasting leaders and laggards within the industry. The network focussed on changing the practices of the most vulnerable electronics companies first, and once successful pressured other companies to follow suit. By getting one or a small number of companies to change their environmental policies, the network has been able to illustrate to the public and policymakers that its demands are achievable by the industry.

In the case of Dell, the company's business model made it an appealing target for activists because Dell had no relationship with retailers at that time. Dell's direct sales model meant it had a record of who had purchased all of its products, increasing the ease with which the company could design a recovery system for its obsolete products. When the network decided to target Dell in 2001, the company was also the market share leader for personal computer (PC) sales (Wood and Schneider 2006). Market share has also played an important role in the e-waste network's decision to target HP, which regularly alternates with Dell as the market leader in PC sales. The e-waste network hoped that by

¹⁸ While both electronics manufacturers and the e-waste network oppose the illegal export of e-waste and view it as a serious problem, they continue to differ considerably on their proposed solutions to the problem. Phone interview with representative from U.S. electronics industry association, September 16, 2009.

¹⁹ Phone interview with representative from a U.S. electronics industry association, September 16, 2009.

targeting the market leaders to change their practices they could convince other companies in the industry to follow suit (O'Rourke 2005, 121).

Dell and HP also have the largest market share of PC sales to large institutional purchasers, such as universities and government agencies. Large institutional purchasers have significant buying power and electronics manufacturers actively compete for their purchasing contracts. Institutional purchasers have played an important role in the e-waste campaign as they have the power to demand electronics manufacturers take back their products at the end of their useful life (it is standard industry practice to do so) and meet other environmental criteria. Within the U.S., the EPEAT and Energy Star programmes rank products according to environmental criteria.²⁰ Governments and other large institutional purchasers may require that electronics manufacturers meet EPEAT criteria to be awarded purchasing contracts, giving the industry significant incentive to improve the environmental aspects of its products.²¹

Brand and company image have also played a considerable role in the e-waste network's decisions of which companies to target. Activists felt that Dell was vulnerable because it does not personally manufacture any of its products and is in many respects a marketing company for electronics. Apple made an appealing target for activists because of its well-known brand and its image as 'hip,' 'progressive,' and 'alternative'. These characteristics contrasted vividly against Apple's lack of leadership on the issue of e-waste. Furthermore, while computers are largely commodity items and lack a large degree of brand differentiation and loyalty, Apple's customers are extremely loyal and the company is able to charge a premium for its brand. Apple was also targeted by the e-waste network because it is often copied by other electronics manufacturers in terms of design and innovation.²²

In addition to their well-known brands, Apple and Dell are closely associated with their CEOs. Michael Dell founded his company and it bears his name, while Steve Jobs is the co-founder and highly visible face of Apple. The highly visible personalities of these CEOs allowed the e-waste network to personalize the e-waste issue, pinpoint blame for the companies' poor environmental policies, and demand these individuals take action.²³ The agenda of activists may have also been advanced by employees within these companies. Several e-waste activists noted that having sympathetic staff members within a company can be useful in communicating the network's arguments to company management. The growth of environmental departments within electronics manufacturers has aided the e-waste network, as staff members may consider themselves to be environmentalists and be sympathetic to the goals of the movement. In the case of Apple, staff members may have also felt that the company's previously positive and progressive image was being eroded by the claims of the e-waste movement, and may have helped to put pressure on company management to respond to the movement's demands.

²⁰ EPEAT (Electronic Product Environmental Assessment Tool) is a voluntary programme similar to Energy Star where electronics are rated according to a list of environmental criteria.

²¹ Interview with e-waste campaigner, April 23, 2009.

²² Interview with e-waste campaigner, October 28, 2009.

²³ Interview with e-waste campaigner, April 21, 2009; Wood and Schneider 2006, 291.

Corporate culture has also shaped electronic manufacturers' responses to the e-waste network.²⁴ For instance, HP was viewed as vulnerable by the e-waste network in part because the company's founders, Bill Hewlett and Dave Packard, instilled a sense of community and corporate responsibility in the company. In contrast, Apple is often viewed as a closed or secretive organization with Steve Jobs exerting significant control over the company. Activists felt that this may in part explain Apple's slow and confrontational response to the e-waste network.²⁵ These cultural characteristics play a role in not only shaping how vulnerable companies are to activists, but also the manner in which they choose to engage with activists.

The Evolution of Corporate Campaigns

In addition to explaining the vulnerability of corporate actors to social movement tactics, the concept of an industry opportunity structure can also be used to explain differences in the way corporate actors choose to engage with activists. Because the e-waste network sees corporate campaigns as a way of working towards stronger legislation to address e-waste, they hope to leverage successes from their corporate campaign and positive actions by electronics manufacturers into the creation of comprehensive e-waste legislation.

The Apple and Dell campaigns underscored the importance of management and corporate culture in how a company chooses to engage with activists. While Michael Dell and his company's management were initially resistant to activist tactics, shortly after the Dell campaign began the company met with representatives from the CTBC (Electronics TakeBack Coalition 2006). Dell continues to communicate with activists today and holds multi-stakeholder meetings about the company's environmental policies. While members of the e-waste network may at times question the usefulness of these meetings, there is a general consensus within the network that activists must actively dialogue with companies in addition to attacking them.²⁶ In contrast to Dell's response to the e-waste network, the relationship between the e-waste network and Apple has been much more confrontational, with Steve Jobs accusing Greenpeace of being "unfair" (Burrows 2009b). While Apple has addressed some of the demands of the e-waste network, the company continues to communicate minimally with the network.²⁷

The willingness of electronics manufacturers to dialogue with the e-waste network is important because it is in part through this dialogue that activists have been able to continually push the industry to ratchet up its environmental standards. The e-waste network has pushed electronics manufacturers to continually improve on the environmental sustainability of their products and overcome technological limitations. Members of the e-waste network devote resources to both criticizing and dialoguing with electronics manufacturers. As O'Rourke states with regards to corporate campaigns,

²⁴ Interview with e-waste campaigner, October 28, 2009.

²⁵ Interview with e-waste campaigner, April 21, 2009.

²⁶ Interview with e-waste campaigner, April 21, 2009; interview with e-waste campaigner, April 22, 2009.

²⁷ Interview with e-waste campaigner, October 28, 2009; interview with e-waste campaigner, April 21, 2009.

“Activists no longer simply decry problems and demand that the government regulate them more effectively. They are now engaged in finding and promoting solutions in the marketplace. This often entails both an ‘outside’ strategy of external pressure on firms and an ‘inside’ strategy of negotiations to help firms identify solutions that are implementable” (2005, 124).

Members of the e-waste network communicate regularly with representatives from major electronics manufacturers about their environmental policies. In the EU, a number of electronics manufacturers, including Sony, HP, Dell and Electrolux, have joined together with members of the e-waste network to form the alliance IPR Works, which works to advance the principle of IPR.²⁸ Through IPR Works, activists and representatives from electronics manufacturers have been able to establish areas where they have common goals and interests. This industry-NGO coalition gives representatives from NGOs an opportunity to communicate their demands to the electronics industry, while giving the industry a chance to communicate technological and financial limitations it faces. In the case of e-waste, dialogue and engagement between the two types of actors continues to be largely limited to specific areas of concern.²⁹ While the two types of actors disagree on many points, on instances where there is agreement, the two groups have a very strong lobbying position. As one representative of a major electronics manufacturer noted, companies are generally seen as taking a reactive stance towards environmental regulations while environmental NGOs are seen as proactive: “if you make a coalition with an NGO that seems surprising because by nature people think that NGOs and industry should have different views. And that’s a great strength of such a coalition, that then you know, institutions, politicians and legislators get your point.”³⁰ Outside IPR Works, individual companies will also occasionally inform members of the network when other companies are not meeting their commitments.³¹

While corporate campaigns have evolved from a largely conflictual relationship between activists and their target to greater engagement between the two groups, the agendas of these two types of actors remain very different. The e-waste network has organized public actions against companies with which it cooperates, and activists state they will continue to do so if they feel that electronics manufacturers are not living up to their word. The case of e-waste represents an evolution in corporate campaigning where activists concurrently criticize corporations and praise them when they respond positively to activist demands. As Trumpy argues, this approach by activists of providing praise in addition to criticism should not be viewed as co-optation and can make a corporate campaign more successful by maintaining an insider relationship with corporations (2008, 494).

²⁸ IPR Works was originally formed to lobby for the inclusion of IPR in the WEEE Directive. Since that time members of the alliance have continued to meet regularly and lobby to ensure that IPR is being properly implemented in the EU.

²⁹ Interview with representative of European environmental NGO, October 20, 2009.

³⁰ Phone interview with representative from a major electronics manufacturer, December 3, 2009.

³¹ Interview with e-waste campaigner, October 28, 2009.

This type of corporate campaign that confronts corporations while engaging in a dialogue presents several challenges for activists. It takes considerable resources for even a large NGO such as Greenpeace to ensure it is responding both knowledgeably and equally to corporations.³² While electronics manufacturers have considerable resources they can devote to engaging with the e-waste network, NGOs have far fewer resources, making a corporate campaign against a large industry, such as the electronics industry, a considerable commitment for activists to take on. While the e-waste network has been quite successful in recent years, the corporate campaign against electronics manufacturers has been ongoing for almost a decade. To successfully engage in a corporate campaign of this magnitude activists may have to commit considerable resources to a corporate campaign over a significant period of time. In addition, in dialoguing with electronics manufacturers, activists must ensure they continue to maintain their critical stance and do not become too sympathetic to the goals of the industry in order to maintain their legitimacy. Despite these challenges the e-waste network's corporate campaign has been highly successful, and can serve as a useful guide to future corporate campaigns.

Conclusion: Lessons from the E-Waste Network

In recent years activists have increasingly been targeting corporate actors as they have perceived political opportunity structures within states to be less welcoming. This paper used the concept of an industry opportunity structure to explain the success of the e-waste network's corporate campaign. Organizational, economic and cultural characteristics within the electronics industry as a whole and individual electronics manufacturers shaped the vulnerability of electronics manufacturers. Factors, such as the competitiveness of the electronics industry, the small number of large manufacturers, and its global scope, made the industry an appealing target for the e-waste network. In choosing which individual electronics manufacturers to target, the e-waste network singled out those companies that were market-share leaders, with strong brands, and in many cases corporate management closely associated with the companies' brand and reputation. Concerns about reputation as well as internal company culture have also played a role in shaping the manner in which companies have responded to activists, and the extent to which they are willing to dialogue with members of the e-waste network. The willingness of these two types of actors to dialogue also represents an evolution in corporate campaigning. Rather than simply criticizing electronics manufacturers, the e-waste network has found it to be beneficial to communicate and even cooperate with specific companies when both types of actors share a common position.

While this paper focussed on the e-waste network, the concept of an industry opportunity structure and the organizational, economic and cultural factors that are outlined here can also be utilized in explaining the success or failure of other activist campaigns directed at corporate targets. These factors can be useful in explaining why some corporations are willing to establish a much more cooperative relationship with NGOs, while other corporations in the same industry may be more resistant. In situations where activist campaigns do not ultimately focus on the achievement of legislative change, the concept of an industry opportunity structure may also be useful in explaining the depth of

³² Interview with e-waste campaigner, October 28, 2009.

commitment of a company's CSR policies and private regulatory initiatives, when enacted in response to an activist campaign.

In addition to its corporate campaign, the e-waste movement has also had a concurrent legislative campaign. This two prong strategy has been very effective for the network. The e-waste network's corporate campaign has pushed electronics companies to endorse IPR and lobby legislators to pass laws addressing the e-waste problem. Both the conflictual and cooperative nature of e-waste network's relationship with electronics manufacturers and the network's concurrent legislative and corporate campaigns suggest that activists may be most successful when they utilize a variety of tactics and strategies.

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