

Corporate strategies in response to social and environmental problems: five lessons from historical issue life-cycles¹

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Abstract. How do corporate actors respond to social and environmental problems? Firms usually hold assets useful for promoting technological innovation that may help address a ‘societal’ problem (or ‘societal issue’). However, they often face little incentive to promote such innovation, because the costs associated with societal problems are not reflected in markets. Sometimes incumbents not only do not innovate, but also put up active resistance, through e.g. challenging scientific findings connected to the problem or lobbying against regulations. Yet, past examples show that at some point incumbents can change their strategies and become more seriously committed to developing and marketing technological solutions to a given societal problem. This article draws lessons from two theory-informed historical case studies on how corporations responded to social and environmental problems: the response of American automakers to the issue of local air pollution and the response of American automakers to the issue of car safety. The first case saw automakers developing and selling cars with catalytic converters, which significantly contributed to diminish the level of car emissions of conventional pollutants. The second case saw automakers not only developing car safety features, but also embracing the ‘safety theme’ in their advertising practices and ‘mission’. However, innovations in both cases only came about after long periods of struggle between those calling for change (such as activists and policy-makers) and automakers resisting change, in what can be seen as the ‘issue life-cycle’ process. The article uses a conceptual model of issue life-cycle to draw five lessons about how corporations respond to social and environmental issues. It concludes with implications for contemporary strategies by social movement organizations and policy-makers.

1. Introduction: What is an ‘issue life-cycle’?

The notion of an ‘issue life-cycle’ encompasses the idea that societal problems or issues progress through stages.² This insight seems to have first emerged in sociology in the first

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half of the twentieth century. Two of the pioneers were Richard C. Fuller and Richard R. Myers, who proposed, “every social problem has a natural history” (Fuller and Myers, 1941: 320).

Social problems do not arise full-blown, commanding community attention and evoking adequate policies and machinery for their solution. On the contrary, we believe that social problems exhibit a temporal course of development in which different phases or stages may be distinguished. Each stage anticipates its successor in time and each succeeding stage contains new elements which mark it from its predecessor. A social problem thus conceived as always being in a dynamic state of ‘becoming’ passes through the natural history stages of awareness, policy determination, and reform. (p. 321)

This idea caught up again in the 1970s, with Malcom Spector and John I. Kitsuse proposing a reformulation based on a purely constructivist view. Their 1973 article – “Social problems: a re-formulation” – became a seminal one in this perspective (cf. Schneider, 1985). In it, they proposed a four-stage natural history model of social problems: “In Stage One, groups assert the existence and offensiveness of some condition. In Stage Two some official agency responds to the claims; in Stage Three claims and demands re-emerge, expressing dissatisfaction with the official response. In Stage Four alternative, parallel, or counter-institutions are established” (Spector and Kitsuse, 1973: 145).

In the late 1970s, public policy scholar also began to develop the idea of “issue life cycles” (instead of ‘natural history of social problems’), with e.g. Post (1978) proposing a four-stage model (consisting of ‘emergence of expectational gap’, ‘politicization (pre-legislation)’, ‘legislation’, and ‘litigation’). Years later, Buchholz (1986) proposed a three-stage model (‘public opinion formation’, ‘public policy formulation’, and ‘public policy implementation’). The idea of issue-life cycle was picked up in more recent year by scholars from the Business & Society field, who developed new models that also accounted for industry responses to societal issues (e.g. Bigelow et al., 1991; Wartick and Mahon, 1994; Lamertz et al., 2003; Rivoli and Waddock, 2011). These scholars also drew on the idea of an ‘issue-attention cycle’, originally proposed by Anthony Downs (1972), which suggest that “public attention towards an issue may rise and fall more or less independently of the factual development of the publicly perceived problem or whether it is politically ‘solved’ or not” (Newig, 2004: 151).

In summary, *issue life-cycle models embody the stages that issues undergo in their ‘lifetime’*. Yet, despite many advances in the successive generations of issue life-cycle theory, it still present some theoretical and methodological under-conceptualizations (gaps) about: (a) the processes through which an industry shifts to substantive responses (e.g. technological strategy); (b) the interplays between firm-level and collective (industry-level) strategies; and (c) the relationship between an issue life-cycle and issue *attention*-cycles. This is why I

² ‘Problems’ and ‘issues’ will be used as synonyms. ‘Societal’ problems/issues will be used to encompass ‘social and environmental’ problems. ‘Industry’ will be used as a shorthand expression to ‘corporate actors’

developed a new model of issue life-cycle: the 'Dialectic Issue Life-Cycle' (DILC) model (see Penna and Geels, 2012; Geels and Penna, 2013; Penna and Geels, 2013).

1.1. The 'Dialectic Issue Life-Cycle' (DILC) model

The 'Dialectic Issue Life-Cycle' (DILC) model is based on the notions that (a) societal problems and industry response strategies progress in *stages*, and (b) this is a longitudinal, multi-dimensional co-evolutionary process at the organizational-field level. In order to address the gaps outlined above, the model incorporates concepts from Science, Technology & Innovation (STI) studies; from Organizational Institutionalism works on corporate political activities and inter-organizational relationships, and from issue attention-cycle theory and studies on technology hype-cycles. It is beyond the scope of this article to describe the model and its (five) phases in detail, which can be found elsewhere (e.g. Penna and Geels, 2012). I will therefore present its general logic (Figure 1).

Figure 1: The five-phase Dialectic Issue Life-Cycle Model



Source: Author's construction.

The model plays on the 'dialectical' metaphor for what goes inside each phase and between phases. The shift from one phase to the next is not automatic or natural, but depends on conflict between those espousing change to address societal issues and those resisting changes (usually, corporate actors/affected industry). It therefore plays on the notion of 'thesis' and 'antithesis', but does not propose a strict analogy: some actors call for changes ('the antithesis') in corporate practices ('the thesis'). However, instead of reaching an immediate 'synthesis', in the DILC model this dialectical process escalates and spills over to different arenas (e.g. civil society, policy arena, markets, etc.) during different phases, with more actors (e.g. social movement organizations, policy-makers, new entrants, consumers) getting involved before substantive changes in corporate practices take place and a 'synthesis' emerge.

The underlying logics is that societal issues first emerge in civil society via activists (phase 1) and then spill over to public opinion (phase 2), creating credibility pressures on policy-makers, who will engage in symbolic action. In phase 3, these pressures lead to political debates if the issue is still supported by public opinion. So, the first three phases mainly take place in the socio-political arena (but in third stage pressure starts appear in the economic environment, through the actions of outside firms, new entrants and suppliers).

In the first three phases, industry actors are reluctant to change in order to address the issue, because they are 'locked in' to the so-called 'industry regime' (Geels, 2012). They therefore respond with various defensive activities to protect industry interests. When they acknowledge social problems (due to public pressures), firms may move towards incremental technical solutions, but will publicly resist more substantial changes. In phases four and five, when the issue spills over to the economic environment and lead to changes in *mass* consumer preferences, industry actors gradually move to more substantive responses to address the issue. What follows is a complete reorientation of the industry regime: a 'synthesis' of the whole dialectical process, with individual firms now selling innovative products that help address a societal issue.

2. Five lessons from historical case studies

The DILC model is an ideal-type (based on a comprehensive literature review), which highlights certain (relevant) aspects that characterize the phenomenon of interest and differentiate it from others. Empirical cases are richer and more complex than the ideal type, so that deviations will always be present. The model however provides an analytical heuristic that can be used to make sense of empirical cases, based on which policy and strategy lessons can be drawn. In Penna and Geels (2012) and Geels and Penna (2013), the DILC model was applied to two historical cases studies, respectively: (1) The issue of local air pollution and the American automobile industry (1940s-1980s); and (2) The issue of automobile safety and the American automobile industry (1900-1995). In this section, I draw five lessons from these historical case studies about how corporate actors enact or not changes in response to social and environmental problems.

2.1. Lesson 1: the way the problem is framed brings about important implications as to how the industry responds to the problem.

The 'framing' of a problem creates an 'image' of *what the problem is, what are its causes, and what are the potential solutions*. Metaphorically, it describes its *symptoms*, elaborates its *diagnosis*, and gives a *prognosis*. Corporate actors will begin to respond to the problem-related pressures if the framing poses a threat to their legitimacy, technology or business model (in other words, if it poses a threat to the 'industry regime').

The issue of air pollution was, until the Second World War, viewed as a nuisance from economic progress. But in the 1940s, the media began to frame it as a problematic condition in need of action. Yet, as it was associated with stationary sources and not with cars, the automobile industry remained indifferent to it. In the 1950s, new scientific understandings showed that the issue was not really caused by stationary sources – but by cars, which lead automakers to deploy public relation strategies and make promises of solutions to defend

the reputation of their product and their own legitimacy. In the 1960s, air pollution received a stronger 'health-threat' framing (influenced by medical doctors and voiced by social movement organizations), so that the issue began to pose a stronger threat on the industry legitimacy. In subsequent decades (1970s and 1980s), when new regulation (the 1970 Clean Air Act) was being implemented to bring emission-control technologies to markets, the industry tried to attach an economic framing to the problem (calling for cost-benefit analysis that should account to 'non-pecuniary' costs such as impacts on fuel economy).

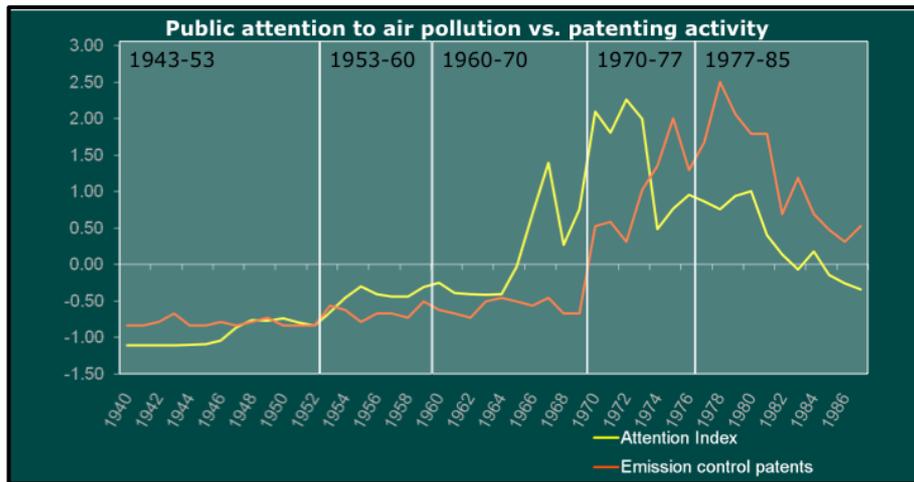
In the case of car safety, the initial framing was that the problem was a matter of driver's education, road engineering, and law enforcement – the 'triple E' framing, supported by automakers and safety organizations. This framing did not pose a threat to the automobile industry (cars were let out of the diagnosis and prognosis). After the Second World War, a new injury-prevention (technical) framing emerged, influenced by research on crash-protection and crash-worthiness, which was promoted by engineers and medical doctors, and advocated by activists such as Ralph Nader. These groups then began to call for changes in car design, but automakers were reluctant to innovate with safety features, claiming that 'safety does not sell' (implying that consumers did not want to pay for safety features). This technical framing was then adopted by the 1966 U.S. safety act, during whose implementation the industry again tried to attach an economic framing to it. The gradual and contested replacement of the 'triple E' framing by the 'injury prevention' (technical) framing had major implications for the solutions being developed. Up to the 1950s, 'safety innovation' was understood as technologies that helped the driver to prevent accidents (such as improved brakes and lights); with the emergence of the injury-prevention framing, 'safety innovation' began to be understood as technologies that protected passengers (such as seat-belts and airbags).

2.2. Lesson 2: corporate change does not happen if public concern and attention to the problem is low.

Public concern and attention³ to the problem *on their own* are not sufficient to drive changes in corporate practices. But they still play a fundamental role in the issue life-cycle process. For example, policy-makers only start to pay attention to the issue, and to debate and propose solutions if public concern/attention is sufficiently high, i.e. if there is a widespread public sense of urgency. Moreover, corporate actors will start developing technological solutions if/after public concern/attention is high. The following figures illustrate this lesson.

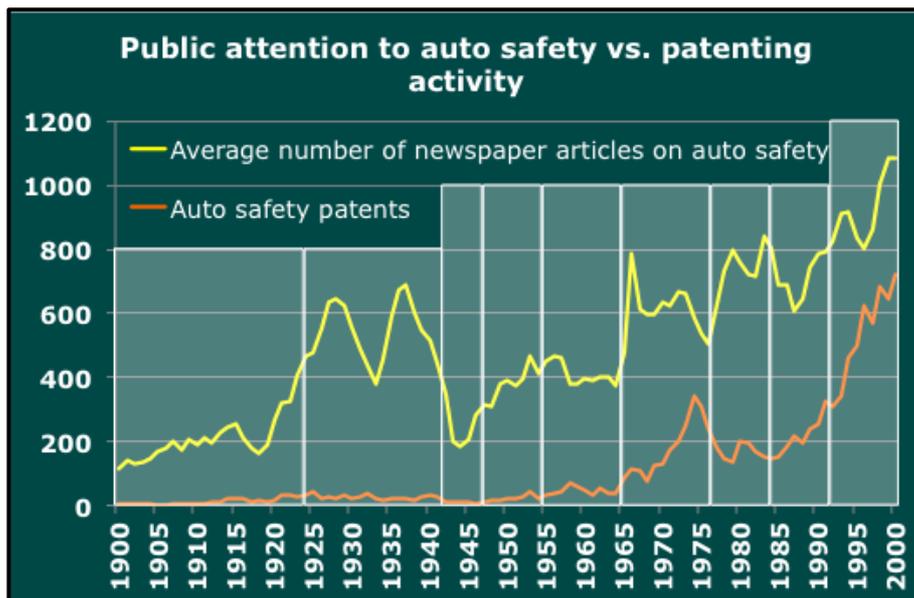
³ Public attention can be regarded as a proxy for intensity of public concern (Newig, 2004).

Figure 2: The co-evolution of public attention and industry technology development strategies in the local air pollution case (USA)



Source: Author's construction based on searches in newspaper and patent databases.

Figure 3: The co-evolution of public attention and industry technology development strategies in the car safety case (USA)



Source: Author's construction based on searches in newspaper and patent databases.

Figure 2 and 3 show the co-evolution public attention and industry technology development strategies in the local air pollution case and car safety case, respectively. The enactment of key pieces of legislation in the US, in both cases, coincided with (local) peaks in public attention: 1970, in the case of air pollution, when the Clean Air Act was enacted; and 1966, in the car safety case, when the 1966 *National Traffic and Motor Vehicle Safety Act*

(NTMVSA) was enacted.⁴ Moreover, public attention and industry patenting activity seem correlated in both cases. Patenting of emission control technologies seems to present a lagged correlation with public attention. Patenting of car safety technologies takes off after 1966, and increases sharply together with public attention.

2.3. Lesson 3: corporate actors engage with radical innovation in early phases of an issue life-cycle, but are motivated primarily by symbolic reasons.

The DILC model proposes that corporate actors only develop incremental innovations in early phases of an issue life-cycle, because these draw on existing capabilities, do not threaten sunk investments in production facilities, and do not disrupt markets. But the historical case studies revealed instances when industry actors did engage with radical innovation in 'early phases' – but this happened mainly due to symbolic reasons, e.g. in reaction to rising public concern with the issue, or in order to secure public or political goodwill, or to prevent the passage of new legislation that would mandate certain technologies.

In the air pollution case, Ford promoted early research (1950s) on catalytic converter (in fact, on a catalyst, *vanadium pentoxide*). This research was keenly publicized in order to secure public and political goodwill; Chrysler copied the strategy by announcing the development of a 'better-tuned' engine that produced lower emissions. In fact, Chrysler's 'Clean Air Package' was adopted by the incumbent industry in the 1960s to pre-empt the need and then influence (frame) the content of regulation.

In the safety case, early technological developments by Chrysler (1930s) and Ford (1950s) were also symbolic and aimed at securing public goodwill through what mainly amounted to public relation or marketing strategies. Chrysler was responding to lobbying from a friendly medical doctor (Dr. Claire Straith), i.e. it was a response to pressures from the institutional environment. And Ford's strategy was a response not to the safety issue itself but to market (competition) issues: it wanted to portray its cars as 'safer' in order to secure higher market-shares. In both episodes, these earlier engagements with safety innovations did not represent progress in addressing the car safety problem, because the American automobile industry as a whole still defended the 'education-enforcement-engineering' framing.

2.4. Lesson 4: corporate actors strategically draw on competing issues and on favourable discourses to delay issue-related changes.

The DILC model proposes that issue progress depends on the escalation of *internal* dialectic processes between issue-proponents and issue opponents (i.e. the industry, whose legitimacy is threatened by the issue). Yet, the historical case studies showed that corporate actors strategically draw on competing issues and on favourable discourses to delay issue-

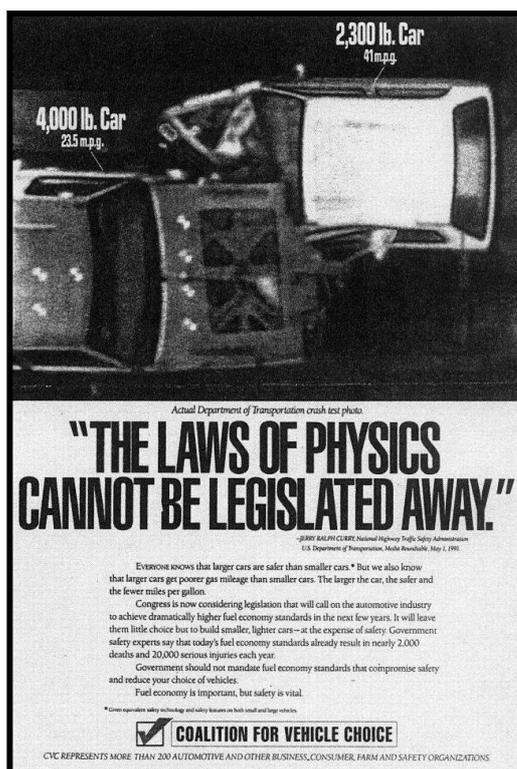
⁴ While further research is needed to establish the causality between public attention and policy-making activity ('political attention'), an experimental quantitative analysis (developed in my thesis) of indicators of public and political attention revealed that rising public attention preceded political attention in both cases.

related changes. In other words, processes in theory *external* to the issue life-cycle also play an important role in how the issue evolves.

In the air pollution case, after the outbreak of the 1973 oil shock, the industry played on a supposed trade-off between low emissions and high fuel economy. Moreover, the shock also created economic problems and stimulated consumer interest in fuel efficiency, which overshadowed public and political attention for air pollution. In the late 1970s, the industry used its economic problems to articulate an anti-regulatory discourse that resounded with broader problems in the American economy. In turn, the political acceptance of this discourse halted regulatory progress on air pollution until the 1990s.

In the car safety case, in the 1980s/1990s the industry also played on a supposed trade-off between safety regulation and fuel economy regulation. The industry argued that, to meet fuel economy standards, it had to downsize cars, but this in turn would make cars unsafe. A 1991 advertisement by the industry sponsored 'astroturf' organization *Coalition for Vehicle Choice* (Figure 4) illustrated the argument.

Figure 4: CVC's 1991 ad on a supposed trade-off between fuel economy and safety



Source: Doyle (2000, p. 264)

2.5. Lesson 5: public policy alone does not lead to full industry reorientation around a societal problem; changes in mass consumer demand are necessary for this to happen.

The enactment of regulation stimulates (and sometimes, ‘forces’) corporate actors to change its ‘technical regime’ (i.e. develop new technologies, acquire new competencies) to meet the new technical standards. This technical regime change process is fundamental, for it enables the emergence of technical solutions (innovations). Yet, ‘full reorientation’ means, corporate actors also incorporate changes in their ‘belief system’ and ‘mission’.

The issue of local air pollution followed a life-cycle that, in the presence of a strong piece of regulation (the 1970 Clean Air Act) but in the absence of mass consumer demand, led to a partial reorientation of the regime: the industry acquired new competencies and capabilities (in organic chemistry and electronics) that allowed it to develop advanced catalytic converters that significantly controlled emissions. But concern with the environment was not incorporated in their mission, because they believed changes were externally imposed by legislators and not demanded by consumers. This would have a lasting effect as to how the American automobile industry responded (and responds) to environmental problems, such as climate change.

In contrast, the safety case showed that the issue of automobile safety followed a life cycle that, in the presence of regulation and mass demand, led to full reorientation of the industry regime. In fact, until the 1980s, when safety was not yet an important criterion informing consumer’s buying decisions, the industry only – and reluctantly – changed its technical regime to meet the 1966 safety act. But when consumers began to demand safety features⁵, American automakers reoriented whole-heartedly.

3. Implications for social movement organizations and policy-makers

To conclude, I will briefly draw implication from these lessons to social movement organizations and policy-makers concerned with contemporary societal problems such as climate change:

Lesson 1. The implication from this historical lesson is in fact two-fold: (1) corporate actors will initially deploy public relations and confrontational strategies if the framing threatens its legitimacy; and (2) the development of solutions co-evolves with the way the problem is framed. This lesson seems important to both social movement organizations (SMOs) and policy makers. SMOs play a key role in promoting a public framing to the problem, and depending on this framing, the industry may show more or less cooperation. In the case of climate change, the emergence and diffusion of a win-win discourse amongst progressive businesses in the late 1990s led corporate actors to abandon the *Global Climate Coalition* (which promoted denial strategies) and to adopt an ‘environmentally friendly’ discourse (Penna and Geels, 2013). As for policy-makers, it important to be aware that the framing embedded in certain pieces of legislation may lead to only some types of technological

⁵ Due to several contributing factors, such as the institutionalization of the health and safety movement, the baby boomers reaching maturity, women becoming increasingly involved in new vehicle purchases, and advertising campaigns by foreign automakers like Mercedes and Volvo.

solutions and not others. It is important to match legislation with the appropriate framing in order to promote the most desirable solutions.

Lesson 2. High public attention and concern offer a window of opportunity for action to address a societal problem. The implication from the historical lesson is that the higher public attention and concern with an issue, the more likely strong pieces of legislation will be enacted, and the earlier industry will start developing related technologies. This lesson is important to SMOs, which should not only engage in attention advocacy, staging protests and demonstrations, but also promote educational campaigns (e.g. based on scientific evidence) to inform the public about the severity of a given problem and foster a sense of urgency. Interestingly, the enactment of the 1970 Clean Air Act happened in the same year when the first *Earth Day* (April 22nd) was celebrated (when both protests and educational campaigns were promoted by environmentalists). In the case of climate change, it is interesting to note that the mid-2000s seem to have presented an window of opportunity for change (public attention was high, due to e.g. the Nobel Peace Prize being awarded to Al Gore and the IPCC; release of movies such as *The Day after tomorrow*; and occurrence of severe weather episodes such as Hurricane Katrina), which however closed with the outbreak of the financial crisis in 2007-8.

Lesson 3. An implication from lesson 3 is that the development of technology innovations does not always represent progress in addressing a societal problem. Therefore, policy-makers and civil society alike should be cautious in celebrating and endorsing early demonstrations of technology development.

Lesson 4. One implication from the fourth lesson is that the way the industry responds to issue-related pressures is also dependant on external dynamics and competing issues. Just like the industry draws on these developments to secure advantages, SMOs and policy-makers should also strategically draw on favourable issues and discourses to help advance solutions to the problem.

Lesson 5. The final implication is that public policy should employ not just supply-side measures, but also demand-side measures that motivate consumers to change their preferences. This could take several forms, such as measures that make new technologies (e.g. electric vehicles) cheaper (e.g. subsidies, 'cash for clunkers' schemes), or measures that make old technologies (e.g. gasoline-fuelled cars) more expensive (e.g. carbon-emission taxes). For SMOs, an implication is that lobbying *consumers* is equally important as lobbying policy-makers or corporations. ■

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