

Voting with the wallet: a principal-agent framework for the analysis of sustainable supply chains

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Abstract

Purpose – This paper aims to investigate delegation decisions in supply chains, exploring the metaphor that consumers who make environmentally and socially responsible choices are equivalent to voters in an election.

Design/methodology/approach – This theoretical paper relies on the principles of agency theory to shed light on fundamental challenges that shape our ability to transform supply chains.

Findings – This paper unravels two puzzles linked to delegation decisions within sustainable supply chains. It shows that as firms adopt sustainable production systems, their ability to convey relevant information that convinces consumers to enter in a delegation relationship diminishes, *ceteris paribus*; and once a delegation relationship is established, complementarity within the dimensions of the contract is necessary to guarantee the delivery of sustainability attributes.

Research limitations/implications – The findings of this paper offer insights that can inspire empirical research on sustainable supply chain management.

Practical implications – Policymakers and entrepreneurs willing to incentivize the transformation of supply chains must think about the nature of the relationship between firms and consumers. This paper provides a metaphor that can help practitioners to reinterpret their role as providers or consumers of products and services with sustainability attributes.

Social implications – This paper provides insights that may enhance the understanding of how individual consumption decisions may contribute to transforming supply chains.

Originality/value – This paper expands the repertoire of theoretical tools that can be applied to study the emergence and resilience of sustainable supply chains.

Keywords Supply chain, Delegation, Agency theory, Sustainability

Paper type Research paper



1. Introduction

By providing a concrete representation for abstract ideas, metaphors play an important role in the diffusion of complex messages. From a theory-building perspective, a metaphor must meet three conditions: aptness, richness, and interestingness (Stephens, Matthews, Cornelissen, & Rowlands, 2022). Following these principles, this paper explores the idea that consumers who make sustainability-oriented choices are equivalent to voters casting a ballot in an election (Dickinson & Hollander, 1991; Moraes, Shaw, & Carrigan, 2011; Shaw, Newholm, & Dickinson, 2006; Trentmann, 2007).

To understand why images from the political world can represent how consumption decisions impact supply chains, it is worth taking a step back. Looking at the fundamental attributes of well-functioning political systems, we find structures built upon principles such as freedom of manifestation and association, the availability of information to make informed choices, and a competition where voters delegate tasks to elected officials who can be changed from time to time (Dahl, 1989). Similarly, the metaphor of “voting with the wallet” suggests that consumers have the freedom to engage in a wide array of production and consumption decisions. These choices, which ideally are both purposeful and devoid of any type of coercion (Halkier & Holm, 2008), may be related to other political behaviors in society, such as the participation in protests and other forms of activism (Baumann, Engman, & Johnston, 2015). Freedom of association is found in economic markets as well. After all, consumers can mobilize like-minded individuals to establish collective actions that challenge the practices of targeted businesses (Dubuisson-Quellier, 2015). Furthermore, they may access information that would allow an assessment of the costs and benefits of various consumption alternatives – even if, in the real world, many consumers choose not to actively gather this kind of information. Finally, much like voters delegate responsibilities to elected officials for translating abstract ideas into tangible policies, consumers entrust organizations within supply chains with the task of materializing their aspirations into public and private policies and strategies.

Individuals who “vote with their wallets” continuously evaluate whether to embrace change, delegating tasks to organizations that propose deeper transformations in the configuration of supply chains. Recognizing the relevance of the relationship between individual behavior and sustainability-oriented supply chain operations, several contributions have called for a more practical understanding of sustainability-oriented consumer engagement (see Silva, Rodrigues, & Ferreira Alves, 2022). For example, Taghikhah, Voinov, & Shukla (2019), incorporate the assumption that consumption choices influence production processes to address the relationship between individual behavior and sustainability-oriented supply chain operations. These insights arise from the understanding that the study of sustainable supply chains require lenses that capture the uncertainties and linkages that pervade sustainability-oriented production systems (see Busse, Meinschmidt, & Foerstl, 2017), generating insights that inspire concrete policies and strategies (Linton, Klassen, & Jayaraman, 2007). The case of the supply chains for mobile phones is illustrative: Bask, Halme, Kallio, & Kuula (2013) identify four different clusters of consumers (i.e. updaters, budgeters, environmentalists and long-life users), each one playing a different role in promoting environmentally responsible designs of mobile phones.

However, the examination of delegation decisions in the literature on supply chain management has predominantly centered on interfirm relationships and decisions in upstream segments (Johnsen, 2011; Matinheikki, Kauppi, Brandon-Jones, & van Raaij, 2022). In turn, delegation decisions remain largely overlooked in the context of downstream players – a gap that is particularly acute when we assume that consumers act as “voters” who make decisions with their wallets. A fundamental research question then emerges: *what*

motivates individuals to delegate the task of addressing sustainability issues to certain organizations across the supply chain?

Meeting the condition of “richness” (Stephens et al., 2022), we use the metaphor of “consumer as a voter” to draw insights from agency theory (Eisenhardt, 1989; Heath, 2009; Holmström, 2017; Jensen & Meckling, 1976). Specifically, we explore how delegation decisions in sustainable supply chains influence two interconnected – and, to use the necessary conditions established by Stephens et al. (2022) once again, “interesting” – research puzzles. We first demonstrate that, as firms adopt sustainable production systems, their capacity to convince consumers to engage in a delegation relationship diminishes, *ceteris paribus*. Second, we show that once a delegation relationship is established, the mere provision of economic incentives is insufficient to guarantee the delivery of sustainability-oriented practices. Rather, complementarity between economic incentives and other dimensions within the contractual relationship is necessary.

2. Explaining some key ideas

To support our ideas, we apply the basic principles of agency theory, a framework that helps us understand how individuals or organizations interact when one party (i.e. the principal) delegates tasks or decisions to an agent. Guided by the insights of Skilton (2011), we clarify the key notions in the framework. Agency theory assumes that the agent acts on behalf of the principal in a context characterized by information asymmetry. In this sense, the principal may not have complete knowledge of the actions, intentions, or capabilities of the agent (Holmström, 2017; Jensen & Meckling, 1976). The delegation decision is generally supported by the adoption of a contract, which can take various forms – e.g., long-term formal agreements or informal arrangements (see Gil & Zanarone, 2017). Whatever the contractual form to be adopted, delegation facilitates the coordination of complex transactions within the supply chain by distributing decision-making responsibilities. The goal is to align the interests of both parties, ensuring that the actions of the agent contribute to the overall objectives of the principal.

To illustrate how the idea of delegation sheds light on the challenges associated with transforming supply chains, consider the case of a consumer who decides to purchase *Fairtrade* coffee. The *Fairtrade* system operates as a certification mechanism, verifying the adherence of farms and firms to ethically based standards, such as paying prices above international market levels to family farmers from developing countries (Nicholls, 2010; Walton, 2010). Like in other sustainability-oriented niches, consumers of *Fairtrade* products have varying levels of awareness concerning the rules of the movement (Davies & Gutsche, 2016; Hira & Ferrie, 2006). In fact, the acquisition of *Fairtrade* coffee in a grocery store is typically supported by a contract that mirrors the typical exchange in daily arm’s length transactions. But the decision to buy a *Fairtrade* product comes with the expectation of a specific “value distribution rule.” This is where the role of delegation becomes evident in sustainable consumption decisions. Millions of consumers trust the *Fairtrade* network because of the belief that it can guarantee an equitable distribution of gains within the coffee supply chain that would be unattainable by consumers acting in isolation. The *Fairtrade* consumer thus delegates the task of improving the livelihoods of farmers or artisans in the developing world to various organizations within the network, such as cooperatives, importers, the labeling organization, and world shops.

Delegation is not an easy ride, though. In the case of credence goods (Dulleck, Kerschbamer, & Sutter, 2011), consumers make an ethical decision because they believe that the purchased good or service contains a certain set of process attributes. However, process attributes may be heterogeneous or imprecise: in a world of information asymmetry, agents

often have considerable discretion in choosing specific actions (Hawkins, Lake, Nielson, & Tierney, 2006). To stick with the same example, even the central attribute supplied by the *Fairtrade* system – i.e. a mechanism that guarantees a “fair distribution” of the value created along the supply chain – is unknown to many consumers (Balineau & Dufeu, 2010). At the same time, bounded rationality implies that contracts are necessarily incomplete (Williamson, 1991), meaning that formal agreements may be insufficient to support consumption decisions if the costs of obtaining information are too high (Barzel, 1997).

3. Strategic challenges in delegation relationships

An application of the basic principles of agency theory can unveil multiple theoretical and empirical puzzles, improving our understanding of sustainable supply chains. To illustrate the usefulness of our approach, we now discuss two puzzles linked to delegation decisions, i.e., the “leap of faith” puzzle and the “complementarity” puzzle.

3.1 *The “leap of faith” puzzle*

In a world of positive transaction costs and contractual incompleteness, what would explain the “final push” that drives consumers to delegate the responsibility of providing sustainable products or services to an organization? Scholars argue that trust is a potential driver of delegation (Chen, Miranda, Parcell, & Chen, 2019; Nuttavuthisit & Thøgersen, 2017). Trust emerges as a complementary mechanism which boosts the positive effects of delegation and the performance of formal contracts (Gur & Bjørnskov, 2017; Lazzarini, Miller, & Zenger, 2008).

But what exactly is trust? As Rousseau, Sitkin, Burt, & Camerer (1998) argue, trust is a psychological state that implies the willingness to accept vulnerability. A person decides to trust someone based on the expectation that the trustee will honor a promise regardless of the monitoring ability of the trustor (Mayer, Davis, & Schoorman, 1995). In this sense, trust can be seen as a “leap of faith” (Møllering, 2006). After all, most consumers lack the ability to verify the validity of these claims or engage in production activities themselves – a decision that would imply establishing and governing an entire supply chain. This is the case, for example, when ethically sensitive consumers buy food from a company that claims to care about the welfare of small farmers. Since trust is attached to particular relationships (Bachmann, 2001; Coleman, 1988; Granovetter, 1985), strategic decisions should explain why consumers delegate complex sustainability-oriented tasks to some organizations over others.

Consider the metaphor of the “consumer as a voter” to think about a particular strategic decision: investing in a brand to increase consumer awareness and acceptance. In politics, the “brand” comprises a bundle of material and abstract attributes, such as the image of politicians, policy proposals and outcomes, and a shared set of values, which collectively shape the reputation of a political party (Eshuis & Klijn, 2012). Of course, there is no guarantee that politicians “mean what they say.” Voters take a “leap of faith” when a ballot is cast, choosing from a set of promises of policies to be delivered after the elections (Nielsen & Larsen, 2014). To incentivize such “leap of faith,” a political party may build over time a reputation of consistently delivering a certain set of policies – i.e. the party may invest in brand name capital. Since brand name capital is a specific asset (Williamson, 1991), however, an organization may not fully recover these investments if the trust of potential “buyers” is broken. For example, a left-wing political party that campaigns against austerity measures and after the election supports “spending-cutting” policies will likely erode its reputation among past voters without attracting an equal number of right-wing party voters (Snegovaya, 2021).

A similar logic shapes the relationship between firms and consumers “voting with the wallet.” If a business relationship involves assets whose value can be fully salvageable in case of disagreement between the parties, the seller may be tempted to maximize short-term gains and act opportunistically (Noe, 2012; Weigelt & Camerer, 1988). In this sense, specific investments in brand name capital may create sunk costs that increase the likelihood of fulfillment of quality promises (Klein & Leffler, 1981). And that leads us to our first strategic puzzle to be solved: *in the context of providing products or services with sustainability attributes, the effectiveness of traditional “signaling” strategies in persuading consumers to make delegation decisions may be limited.* After all, these ethical or sustainability attributes are often embedded in relationships within the supply chain (Hinrichs, 2000; Renting, Marsden, & Banks, 2003; Vurro, Russo, & Perrini, 2009).

For example, a firm that accepts to pay a higher price to acquire *Fairtrade* coffee is making an investment in a key relationship within the supply chain that can only be fully salvageable if a consumer later agrees to pay a price above the competitive market price. It could be argued that specific investments in both brand name capital and in the relationships that enable the production of sustainable products reinforce each other, providing a credible commitment that incentivizes the “leap of faith” before the delegation of a complex task. In fact, several authors highlight the existence of a positive relationship between the perceived ethical behavior of the firm and consumer trust in the brand (Govind, Singh, Garg, & D’Silva, 2019; Singh, Iglesias, & Batista-Fogueat, 2012). It is far from clear, however, whether an investment in brand name capital can signal full compliance with an ethical standard that is relational. This is particularly true for companies linked to traditional agri-food supply chains that aim to adopt more sustainable practices.

The difficulty to translate relational capital into clear signals is not the only hurdle faced by firms interested in providing ethical or sustainable products. Since ethical and sustainable products are often associated with organizational or technological innovation (Tariq, Badir, Tariq, & Bhutta, 2017), investments in brand name capital may be insufficient to convey all the information. As the complexity surrounding a business model increases, the ability to convey information through a brand may diminish (Day, Godsell, Masi, & Zhang, 2020). In this sense, the adoption of new, complex technologies may widen the information gap between producers and consumers across the supply chain, reducing the perception of control over decisions. Therefore, *as firms decide to comply with novel ethical and sustainability standards, investments in brand name capital may become less effective as informational signals, ceteris paribus.*

A potential way to overcome these hurdles is to “double down” and fully embrace sustainability-oriented practices: research shows that firms can mitigate the risks of “greening” the supply chain by increasing the share of sustainable products and investing in consumer awareness and acceptance (Taghikhah et al., 2019). Yet there is a challenge to be tackled, which becomes more apparent once we focus on the nature of the delegation relationship.

Potential hurdles are not limited to the choice of the organization in charge of providing a sustainable product or service. Once delegation decisions are made, the structure of the contract matters. In the next section, we will discuss a second strategic puzzle revealed with the use of the metaphor of the “consumer as a voter,” i.e., the problem of complementarity.

3.2 The “complementarity” puzzle

Our second strategic puzzle relates to the structure of the contract established between the principal and the agent. To argue that delegation is not an easy ride means that aligning incentives may be hard in a world of positive transaction costs. For instance, accusations of “greenwashing” have become commonplace as a growing number of firms embraces the

agenda of sustainability and corporate responsibility (Laufer, 2003). Within our basic framework, “greenwashing” occurs when a firm acts opportunistically after receiving the task to deliver a good or service with certain ethical or environmental attributes. Although cases of plain and simple opportunism in the real world are relatively rare, misbehavior is always a possibility (Poppo, Zhou, & Li, 2016). If firms and consumers are unable to find a way to guarantee the materialization of what seems to be a shared goal, we should look at the design of the contract that supports the delegation relationship.

As textbooks in organizational economics explain (e.g. Brickley, Smith, & Zimmerman, 2016), the basic organizational architecture supporting a delegation relationship is built upon three dimensions:

- (1) the level of incentives;
- (2) the way the performance of the agent is measured; and
- (3) the pattern of allocation of decision rights.

It turns out that the actual features of the three dimensions must be complementary (Zenger, 2002). For example, a pattern of allocation of decision rights favoring a decentralized system must come in tandem with a performance measurement system and incentives that explicitly acknowledge the high level of autonomy of agents. This reveals our second strategic puzzle: *the exchange of products and services with ethical and sustainability attributes is often supported by contracts in which only the incentive structure has been changed*. Indeed, much of the discussion on the configuration of sustainable supply chains tends to be built on the implicit assumption that, if consumers are willing to pay higher prices, firms will follow suit (Miranda, Monteiro, & Rodrigues, 2021). Nevertheless, incentives *per se* are insufficient to explain the emergence of sustainable supply chains.

If we again use the analogy of the “consumer as a voter,” we should acknowledge that phenomena such as “greenwashing” derive from a more general commitment problem (Schelling, 1960). On the one hand, firm managers may think that the consumer will not pay for sustainable products that are generally more expensive for the simple fact that their production internalize more externalities (Monteiro, Miranda, Rodrigues, & Saes, 2021). Consumers, on the other hand, may resist to pay higher prices for sustainable products because monitoring costs are too high. In result, delegation relationships that would leave both principals (i.e. consumers) and agents (i.e. firms) better off never materialize or are established under the shadow of mistrust and potential adverse selection.

To address the commitment problem in a principal–agent relationship, a comprehensive contract redesign is essential for delegating the production of sustainable products. Beyond the conventional focus on establishing proper incentives, transforming supply chains requires redefining performance measurement methods and reallocating decision rights in a way that allows consumers to effectively influence production choices. Attention should thus be paid to the complementarity among the three dimensions of the organizational architecture (Figure 1).

In any case, the actual implications of the “complementarity” puzzle may be multifaceted. In particular, it remains unclear how changes in the pattern of allocation of decision rights would impact the likelihood of provision of ethical or sustainable products and services. Several studies show that most consumers disagree that social-based attributes can replace the functional attributes of a product (Auger, Devinney, Louviere, & Burke, 2008). To put it differently, functional characteristics are deemed as important – or perhaps even more so – than social or environmental considerations in some cases (Frewer, Howard, Hedderley, & Shepherd, 1997; Joshi & Rahman, 2015). Since consumers may hold different views on sustainability issues,

involving buyers more decisively in production and supply chain decisions may lead to a sort of political gridlock. That would explain why the emergence of agri-food supply chains that combine active participation of consumers and a large scale is so hard to find in the real world (Navin, 2015). As Dubuisson-Quellier (2015) points out, it may well be that political consumption is more effective to create localized forms of activism than mass markets.

4. Unresolved issues

While shedding light on two puzzles in the relationships between consumers and supply chains for the exchange of sustainable products, the metaphor that consumers “vote with their wallets” leaves at least three issues unresolved. Each one of these issues offers valuable research opportunities.

The first issue refers to the consequences of sustainable consumption at the society level. Many authors argue that consumption decisions are a tool for transforming both social interactions and our relationship with the environment (Carrier, 2010; Carrington, Zwick, & Neville, 2016; Hawkins, 2012; Long & Murray, 2013). Nevertheless, we know from Arrow’s “impossibility theorem” that the aggregation of individual preferences into collective decisions can be problematic (Arrow, 1951). It is true that the impossibility theorem focuses on the properties of centralized voting procedures, such as the political elections of a liberal democracy. Yet the simple fact that a consumer makes consumption decisions that sharply contrast with the decisions of other people may hinder the attainment of broader social and environmental goals (Riemsdijk, Ingenbleek, Veen, & Trijp, 2020).

The second unresolved issue relates to the observation that the same individual can make consumption decisions that are contradictory to each other (Pecoraro & Uusitalo, 2014; Szmigin, Carrigan, & McEachern, 2009). Sustainable products and services are produced through different production systems and supply chain configurations, each with a set of practices and objectives (Evans & Miele, 2017). As Thøgersen (2022) reminds us, focusing on the delivery of one particular sustainability dimension may lead to negative consequences in other ones. Inconsistencies may well sum up over time in a world of high monitoring costs.

The third issue relates to the institutional diversity in which consumers make consumption decisions. “Voting with the wallet” is not the same in a developed country as it is in a developing country – and not just because of the different levels of information available to consumers. After all, the degree of institutional support provided by both public and private organizations boosts the positive effects of individual ethical decisions (Agnihotri & Bhattacharya, 2019; Paik, Lee, & Pak, 2019; Whitcomb, Erdener, & Li, 1998). There should be multiple equilibria in the interplay of the three dimensions within any

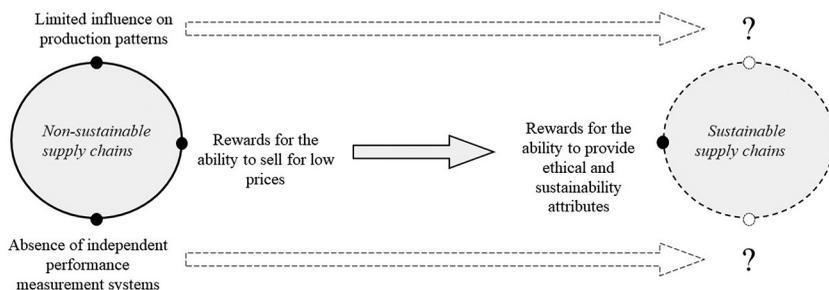


Figure 1.
Complementarity in
the production of
sustainable products

Source: Figure by authors

delegation contract depending on the contingencies affecting the relationships between consumers and the supply chain.

We also call attention to a persistent – and related – research gap in the literature, i.e., the influence of contextual variables in sustainable consumption decisions from a comparative institutional perspective. As [Summers \(2016\)](#) points out, research has mostly relied on cases from developed countries to assess the drivers and consequences of ethical and sustainable consumption. However, the institutional context matters when it comes to the factors that explain the emergence and resilience of sustainable consumption patterns ([Ariztía et al., 2014](#); [Hughes, McEwan, & Bek, 2015](#)). For example, diverse social norms influence sustainable consumption decisions across the planet ([Cui, Lissillour, Chebeň, Lančarič, & Duan, 2022](#)). We need more studies approaching the phenomenon in developing and emerging countries – ideally, adopting a perspective that explicitly acknowledges the cultural diversity around the world ([Banerjee, 2022](#); [Pereira, Hendry, Silva, Bossle, & Antonialli, 2023](#)).

Finally, despite the many insights provided by the metaphor of “consumer as a voter,” there is a potential tension between the sustainable consumption decision and the political choice. A fundamental difference between the decision to consume a sustainable good and to vote for a political party is found in the temporal dimension of the fulfillment of the promise. Let us think about a simple example, i.e., the case of an individual who will make one – and only one – decision both as a consumer and as a voter. Remarkably, consumers purchase a sustainable good because they perceive the past actions made by a certain supplier to be more appropriate than the actions of competitors. Voters, in turn, cast their ballots in the hope that a desired outcome will materialize in the future ([Nielsen & Larsen, 2014](#)). As more interactions are included to the analysis, reputation effects should reduce this contrast. However, the nature of the promises made by sellers to the buyers in each case should shape the type of commitment behind political and consumption decisions.

In any case, empowerment is a fundamental goal for the promotion of both sustainable supply chain practices and the strengthening of political systems. As [Thøgersen \(2005\)](#) points out, consumer empowerment implies the progressive removal of any constraints that affect consumer choices, such as the lack of high-quality information. Consistent with this view, several studies show that a higher level of awareness about the implications of consumption encourages people to adopt more sustainable consumption habits ([Groening, Sarkis, & Zhu, 2018](#); [McNeill & Moore, 2015](#); [Ozaki, 2011](#); [Tobler, Visschers, & Siegrist, 2011](#); [Wells, Ponting, & Peattie, 2011](#)). Enhancing the ability of people to compare different alternatives and purposefully establish delegation relationships should be a key goal for those who aim to accelerate the consolidation of more sustainable production and consumption patterns.

5. Conclusion

This article discusses two fundamental strategic puzzles faced by organizations engaged in the provision of sustainable products and services. While the literature has focused on interfirm delegation in upstream supply chain segments ([Johnsen, 2011](#); [Matinheikki et al., 2022](#)), our research shifts the focus to delegation relationships from the point of view of the consumer. We draw upon the insights of [Silva et al. \(2022\)](#) to emphasize the critical role of consumer engagement in sustainable supply chains. If embedded in intentionality (see [Halkier & Holm, 2008](#)), delegation decisions can impact the likelihood of adoption of sustainability-oriented supply chain strategies.

By acknowledging the role of consumers in the emergence and consolidation of sustainable systems of production, this article helps scholars and practitioners to deal with strategic puzzles in the management of supply chains. Our starting point is the idea that sustainable consumption decisions imply delegating the task of attaining a sustainability

goal to an agent. The agent may be a person (e.g. an organic farmer), an organization (e.g. a sustainability-oriented firm) or a network of organizations (e.g. a “green” certification system). Since transaction costs are positive in the real world, the agent has a certain degree of discretion – and, therefore, some leeway to translate abstract goals into concrete strategies. At the same time, consumers can choose not to incur the high costs of obtaining specific information about the actions of an agent. Given that sustainable consumption is often associated with the purchase of credence goods, access to information may be unfeasible for individual consumers. There must then be a “final push” that will convince consumers, which may ensue from the existence of trust or investments in brand name capital. While trust may take time to emerge, investments in brand name capital may lose effectiveness in cases in which an organization decides to embrace novel production standards. This conclusion unveils the first strategic puzzle discussed in this article.

The decision to take a “leap of faith” and choose an organization over others does not end our challenges. Once a delegation relationship is established, incentive alignment becomes fundamental. This article argues that we must look for a full complementarity among the dimensions of the contracts which support the relationship between consumers and producers. Specifically, the reallocation of decision rights within sustainable supply chains and the adoption of alternative ways to measure the performance of firms in delivering sustainable products and services are as important as financial incentives themselves. This is the second strategic puzzle discussed in this article.

Taken together, these two strategic puzzles have important implications for research on sustainable supply chains. The first implication comes with the choice of the metaphor of “consumer as a voter.” By adopting a novel point of view, we aim to shed light on research problems that have not received enough attention from scholars. The second implication comes as a “word of caution.” If, as our first strategic puzzle states, brand name capital loses effectiveness whenever a firm decides to adopt production practices that sharply differ from previous practices, an important barrier for the conversion of “linear” supply chains into more sustainable one emerges. And that could explain why transformation is so difficult despite the many arguments pushing for the “greening” of supply chains. The third implication is directly tied to organizational design issues, once again highlighting a constraint for the emergence and resilience of sustainable supply chains. Indeed, the requisite of complementarity limits the number of potential configurations of a supply chain – an outcome that could explain why the transformation of supply chains often fails to materialize.

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