Journal of Cleaner Production 85 (2014) 265–275

Contents lists available at ScienceDirect

Journal of Cleaner Production

journal homepage: www.elsevier.com/locate/jclepro

Environmental value chain in green SME networks: the threat of the Abilene paradox

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ARTICLE INFO

Article history:
Received 22 November 2013
Received in revised form
21 July 2014
Accepted 1 September 2014
Available online 6 September 2014

Keywords:
Sustainable development
Green public procurement
Business strategy
Supply chain management
Waste management
Material recovery

ABSTRACT

Demand-side policies are an important complement to subsidies in fostering green product/service markets. Green Public Procurement (GPP), in particular, presents valuable characteristics in terms of directionality, volumes and measurability. Despite being widely analysed from a public perspective, GPP development is still under-explored from a corporate point of view. To shed some light on the strategic attitude of firms towards GPP, this paper discusses an exploratory research in the field of road construction. An inductive analysis of direct observations and theoretical contributions suggests the potential for the so-called "Abilene paradox" to hamper GPP opportunities for Small and Medium Enterprises. In fact, in times of crisis, increased pressures to improve performance and reduce risk, resistance to change and strategic myopia can easily impair inter-organizational interactions and thus prevent potentially innovative networks from pressuring public investments in green supply chains. The related policy suggestions represent a first attempt to enter the realm of systemic approaches to GPP.

1. Introduction

Products and services with a low environmental impact are often reported as strategic targets for small and medium enterprises (SMEs) (Bagur-Femanis et al., 2013; Carrascosa-López et al., 2012; Handfield et al., 2005). Since the 1990's the great interest in the integration of environmental practices in business activities has led researchers to focus on different study streams including management practices (Sarkis and Rasheed, 1995; Klassen, 1993; Klassen and McLaughlin, 1993; Wood, 1991), product design (Allenby, 1993; Sroufe et al., 2000), process design (Porter and van der Linde, 1995a,b), manufacturing practices (Gupta, 1995; Thierry et al., 1995; Winsemius and Guntram, 1992), lean production (Aguado et al., 2013) and supply chain management (Sarkis, 2003; Narasimhan and Carter, 1998; Rizzi et al., 2013).

Green public procurement (GPP) has been reported as a tool able to shape production and consumption trends, thus creating or enlarging markets for environmentally friendly products and services (Li and Geiser, 2005). Through this tool, public demand has the potential to generate improved innovative dynamics and benefits from the associated spillovers, and can effectively complement R&D subsidies (Li and Geiser, 2005).

Considering its increasing relevance for environmental policies both at a European Union and Member State level (Tukker et al., 2008), GPP has been widely analysed in terms of an operational perspective (Swanson et al., 2005; Walker and Brammer, 2009), cost/benefit effectiveness (Hall and Purchase, 2006), obstacles and drawbacks (Walker and Brammer, 2009), feasibility (Nissinen et al., 2009; Parikka-Alhola, 2008), and public motivations (Testa et al., 2012).

Despite this, a more focused analysis on the relations between competent authorities and stakeholders' strategies in the field of GPP design and management has still been neglected or downplayed. In fact, as remarked by Testa et al. (2012), more research is needed to understand how firms and supply chains deal with GPP to secure a competitive advantage. This research recognizes the relevance of this gap and couples it with the call for actionable management researches made by Bazerman (2005).

Under the assumption that not only demand-side actions per se, but also their interactions with supply-side actions have a crucial implication for green innovation dynamics, this paper sheds light on the processes that, by regulating the circulation of information between SMEs, local governments (LGs) and users, impact goal-

Acronyms: COM, Communication; ELT, end-of-life tyre; EPR, extended producer responsibility; ETRMA, European Tyre and Rubber Manufacturers' Association; EU, European Union; GPP, green public procurement; LGs, local governments; R&D, research and development; RAM, rubberized asphalt mixtures; RQ, research question; SMEs, small and medium enterprises.

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http://dx.doi.org/10.1016/j.jclepro.2014.09.001
0959-6526/

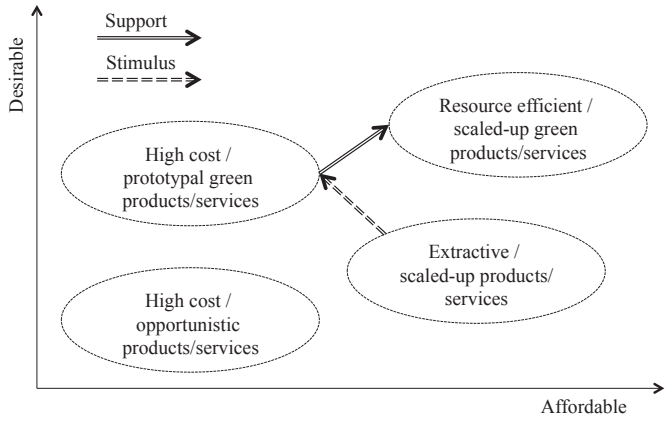

Fig. 1. Relations between market performance, environmental performance and GPP relevance for focal firms[1] and related suppliers with reference to corporate networking strategies.

setting and decision making. An exploratory case study in the field of road construction is presented to outline the inter-organizational patterns that can influence the full potential of latent green networks. The lessons learnt are useful for both, avoiding paradoxical behaviours in corporations, and improving existing GPP policy tools.

The paper is organized as follows. After outlining the theoretical background, two research questions on the mutual influences of GPP actors are formulated in Section 2. Section 3 presents the methodology applied for an in-depth exploratory study on the road construction sector, which is then presented in Section 4 and discussed in Section 5. Finally, Section 6 explains the threat of the Abilene paradox in green SME networks, the limitations and the needs for further research.

2. Theoretical background

GPP policies are becoming a priority on the European agenda, where a purchasing power of up to 19% of the EU's gross domestic product is expected to provide industry with real incentives for entering green markets (European Commission, COM (2008) 400). GPP is not only a market opportunity for existing green SMEs, but also a stimulus for innovation and diversification in traditional sectors (Fig. 1). In fact, GPP can stimulate innovation in green products by supporting green market development through a direct increase in demand (i.e. reduction of unit prices) for green products/services and, in turn, by encouraging coherent research and development. GPP can stimulate innovation to an extent that largely depends on the hurdles that competent authorities encounter when implementing green procurement (Günther and Scheibe, 2006) and on the openness for alternatives to emerge as winners (Edler and Georghiou, 2007). How to select the relevant technologies while preventing lock-ins is thus a critical issue that requires the adoption of evolutionary perspectives and an in-depth knowledge of market dynamics.

The characteristics of the supply side of the market are important not only for qualifying alternatives but, even more, for actively attracting public demand. This aspect has been barely explored in the literature. Besides studies on sustainable supply chains (Srivastava, 2007; Linton et al., 2007; Seuring and Müller, 2008; Gold et al., 2010; Yen and Yen, 2012), which stress the importance of inter-organizational resources for reducing risks in market competition while pursuing green strategies, no insights are given on the way competition shifts from an inter-firm to an inter-supply-chain level, when GPP opportunities are introduced.

A general theoretical framework that helps to understand the exchange relationships between the focal firms who are at the intersection of mature supply-chains and their business partners in the green supply chain can be therefore found in the relational view theory (Lavie, 2006). In fact, those firms that due to a green positioning have an active role in attracting the attention of competent authorities involved in achieving GPP goals are expected to take part both in homogeneous and heterogeneous ego networks (Lavie, 2006). According to Lavie (2006), these networks of firms, termed "egos" to stress the difference with the set of partners, named "alters", provide an useful integration of the resource based view (Barney, 1991) and social network perspectives (Wasserman and Faust, 1994). The homogeneous ego networks are sets of similar focal firms that can benefit from and compete to attract public demand. For example, they can pool together in order to increase lobbying capacity, as in the case of the members of a road construction association. Heterogeneous ego networks are sets of complementary firms which since they are part of the same supply chain, are indirectly impacted by the focal firm's capacity to supply green products/services to public purchasers (e.g. the supply chain of road construction using recycled materials, from waste producers to new manufacturers).

In both cases, at an inter-supply-chain level, the scarcer the green performances in market alternatives, the more inter-firm alliances could build on green performances as a resource-position barrier, for example a situation where the presence of environmentally sound partnerships adversely affects the development of later partnerships.

At an intra-supply-chain level, in the case of heterogeneous ego networks, green performances are instead a tradable resource whose overall amount could profit from relationship patterns among the involved actors.

In order to identify, connect, use, and develop resources on a network level, it is fundamental to periodically learn about the resources of others, to systematically share knowledge on resources, and to make decisions together (Baraldi et al., 2012). In light of this, the imperfect mobility of information among firms and in relation to competent authorities can be easily used to lock competitors out of these networks, thus fostering path dependencies.

Assuming that environmental innovation is often a matter of incremental innovation through systemic approaches (Ceschin, 2013), some structural characteristics seem to be particularly relevant in understanding the way firms interact and shape their networks.

Firstly, apart from accidental business opportunities (i.e. being at the right place at the right time), financial resources as well as marketing and administrative resources can be crucial in the collaborative entrepreneurship among actors with innovative capacities and collective capabilities (Franco and Haase, 2013). Reputation can easily result, on the one hand, in a cut-off filter to select green focal firms and potential partners and, on the other, in the induction of considerable ties from existing formal relationships (Testa and Iraldo, 2010).

Secondly, the synergistic confluence of diversification trajectories is important because switching from traditional to value-creating contractual collaboration is not only efficient, yielding rents through low transaction costs, but is also effective providing rents through value-creating initiatives that are unique to the contractual collaboration (Liu and Hsu, 2011).

[1] "Focal firm" identifies a company which the attention is focused on rather than a company playing a dominant role in the network.