

Do Environmental Practices of Enterprises Constitute an Authentic Green Marketing Strategy? A Case Study from Mexico

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Abstract

Private enterprises have responded to the increasing concern about environmental deterioration by implementing green actions with different grades of efficacy in terms of environmental and business performance. The aim of this work was to outline how firms that operate in a context with weak social and governmental pressures like Mexico are considering environmental issues into their strategies. By using a qualitative research approach, this study collected information of multiple cases comprising multinationals, Mexican firms with international operations and Mexican firms with local operations. Information was analyzed to get a deep understanding about how 4Ps of product, price, place (distribution) and promotion (communication) of the traditional marketing mix are addressed via green practices. The two dominant greening strategies identified, “resource savings and waste reduction” and “certification and acknowledgment of environmental responsibility”, reflect a short-term perspective driven by immediate economic and legitimacy benefits. A well structured green marketing strategy was not identified even for large multinationals.

Keywords: green strategies, marketing mix, environmental responsibility, Mexico, multiple case studies

1. Introduction

The degradation of the environment has been a major topic of research in multiple disciplines. The interest in environmental issues in management journals increased notably during the 1989–1998 decade (Leonidou & Leonidou, 2011) and new research questions have been continuously addressed since then. Environmental management research has significantly transformed, going from exploratory studies and multi-disciplinary research including a multi-cultural perspective to more sophisticated research designs with a quantitative and conclusive orientation. The idea that satisfaction of human needs and economic growth justifies ecological detriment has been replaced by the concept of sustainability development.

From the marketing perspective, concepts like social marketing (Kotler & Levy, 1969), responsible consumption and green marketing have contributed to increase the sensitivity toward environmental problems. In the 1970s, firms used marketing to communicate compliance with environment regulations. In the 1980s, the main issue was how to reduce environmental costs. Then in the 1990s, the interest turned to the development of the green market. These reactive environmental measures changed by 2000 to a more proactive strategy oriented to the creation of an environmental culture and the achievement of competitive advantage from being “green”. This historical evolution influenced marketing management, which advanced from a socially responsible perspective to the implementation of an authentic green marketing strategy able to contribute to sustainable development.

The research on environmental marketing/management includes many topics. The main thematic areas are (Leonidou & Leonidou, 2011): marketing management aspects, environmental management, environmental corporate strategy, regulatory environment, environmental strategy implications, corporate environmental response and environmental advertising. Marketing management arose as the main category (40.4% of the total articles reviewed) covering these main topics: how the marketing mix (product development, communication,

branding, pricing and eco-labeling) supports the enterprise's financial and environmental objectives, the psychology of individuals, segmentation of consumers and identification of green marketing niches, the acquisition of environmental capabilities, the formation of green alliances, green supply chains and the evaluation of environmental strategies (Menguc & Ozanne, 2005).

All these research topics are not only relevant to academia but also to organizations because they represent a potential opportunity to attain: 1) cost reduction through energy savings, substitution and diminution in the use of materials, and the introduction of more efficient technologies; 2) increased revenues resulting from developing the green market that is particularly profitable and in expansion in developed countries (Lyon & Maxwell, 1999); and 3) competitive advantage through a differentiated green strategy.

Most of the recent research (1999–2008) on environmental management and marketing has been focused on Europe (29%), the more advanced region in terms of sustainable practices, and on North America, especially the USA (22.6%). In most of the articles revised by Leonidou & Leonidou (2011), the unit of analysis was the firm, with emphasis on larger businesses, followed by the study of consumers' attitudes, motivations and behaviors. The research coverage has been mainly domestic (28.7%) but with an increasing interest in the international market. Even though the research on environmental management has contributed to create a meaningful body of knowledge, additional research in the following topics is still required: 1) benchmark and case studies that suggest guidelines for the elaboration of an effective green marketing strategy; 2) study of the performance outcomes of different green strategies; 3) development of innovative green products following an enviropreneurialism perspective that combine ecological attributes with customer needs; 4) evaluation of the impact of closed-loop supply chains on the environment and on the firm's competitive position; 5) deep understanding of the private firms' motivations to embrace green strategies; and 6) studies involving firms with different profiles and the replication of studies in different socioeconomic and environmental contexts (Cronin, Smith, Gleim, Ramírez & Martínez, 2011, Leonidou & Leonidou, 2011).

The aim of this work was to cover to some extent the topics 1 and 6 for the particular case of firms operating in Mexico. The study also looks to provide empirical evidence that the limited scope of current green marketing actions justifies the criticism to the green marketing concept and requires additional efforts to prevent the sending of misleading signals to the market (Barkin, 2004, Melton & Tinsley, 1999, Peattie & Crane, 2005). Since current information about the environmental strategies followed by firms located in the country is scarce and dispersed, a qualitative approach was adopted to systematically examine how environmental actions are incorporated into the marketing concept by firms with different sizes, different origins of capital (national and foreign) and operating in different sectors. The objectives of the study were the following:

- To identify how advanced are the green actions currently implemented by firms operating in Mexico?
- To assess if current environmental practices integrate a well structured green marketing strategy?

This study provides in-depth information about how firms deal with environmental issues when the social pressure and regulations of their business context are weak and still developing.

This remainder of this paper is structured in four sections. The first section introduces the concepts of green strategy and green marketing. The second section describes the methodology used to collect and analyze qualitative in-depth information from multiple firms with different profiles (size, market coverage and origin of capital). The third section presents results and discusses main findings. The last section provides conclusions and managerial implications, states limitations of the study and outlines future research.

2. Theoretical Background

Economics and traditional theories of the firm state the goal of the organization is to create economic value for equity holders. But from a social perspective, firms need to voluntarily adopt a triple-need bottom line of evaluation, which includes economic, social and environmental objectives that respond to the requirements of multiple stakeholders (Commission of European Communities [CEC], 2001, Milliman, Ferguson & Sylvester, 2008). The theory of stakeholders has been used to explain why firms implement Corporate Social Responsibility (CSR) policies (Jamali, 2008) and design green strategies (Cronin et al. 2011, Defee, Esper & Mollenkopt, 2009). The core of this theory is that firms respond to multiple stakeholders—consumers, government, investors, supply chain partners, NGOs, employees and society in general— whose expectations, values, preferences and actions influence the organization's strategies because not all of them think exclusively in financial terms. As a consequence, organizations need to consider multiple options to create value and improve their performance to address the demands of all groups who are affected by their business decisions. Then stakeholders are perceived as a regulative structure that prescribes or restrains organizational decisions

(Moir, 2011).

Porter and Kramer (2006) contend that firms implement CSR and environmental programs in a reactive manner and based on doing something good. As a result of this limited perspective, many of the social and environmental strategies have low impact on the firm, the environment and the society. To the extent that firms adopt a more proactive attitude and modify their current evaluation system to include along with financial objectives, environmental and social ones, more effective green strategies will be developed. Such strategies require incorporating ecological objectives in each of the organization's functional areas including marketing.

2.1 Green Strategies

Cronin et al. (2011) performed an integrative review of environmental management and marketing articles to investigate, among other issues, the link between green strategies and a firm's performance. It is argued that unless higher profits are expected, it is unlikely firms will adopt green strategies. However, the benefits that a firm may get from green initiatives are unclear and contradictory because of the complexity of the relation between environmental management strategies and firm performance. It seems the direct benefits are not better revenues but decreased liability, higher levels of employee commitment, increased consumer satisfaction and greater firm value in terms of stock appreciation (or depreciation) depending on positive (or negative) social and environmental actions.

Several environmental strategies may be set up by firms, Cronin et al. (2011) identified the following: 1) green innovation, 2) greening the organization and 3) green alliances. The first strategy refers to the creation of innovative products that strive to protect or enhance the natural environment by conserving energy and/or resources and reducing or eliminating use of toxic agents, pollution and waste (Ottman, Stafford & Hartman, 2006). The design of green products may be based on: 1) source reduction that tries to eliminate pollution in the source itself via weight reduction (e.g. in package volume), material substitution and product life extension; and 2) waste management that focuses on design for easy disassembly, recyclability and final disposal (Bhat, 1993). The firms that use this first global strategy generate product and technology innovations by integrating environmental sustainability into product development and operations. The benefits of this environmentally-friendly strategy are increased efficiency in the use of resources, product differentiation, participation in new markets, improved corporate image and market position (Dangelico & Pujari, 2010). It is important to note that the consumer's concern about environmental problems does not necessarily translate into purchase of green products, as demonstrated by the low market share of ecological products (less than 4% according to Cronin et al., 2011). So the advantages of this global strategy as a marketing strategy are relatively new and require additional exploration (Baumann, Boons & Bragd, 2002).

Greening the organizations is another strategy mainly driven by cost reduction and efficiency in the firm's operations. Firms that pursue this strategy are more focused on environmental aspects within their internal processes. Greening strategies include:

- a) Waste reduction or reduction of operation byproducts through a lean system approach that improves the organizational processes, as opposed to treating or disposing of the waste produced.
- b) System certification through the adoption of formalized environmental management systems and the fulfillment of certified environmental norms (for example ISO 140001) that demonstrate the social and environmental responsibility of the organization. Certifications contribute to the improvement of the firm's image but their role in consumers' perceptions and environmental performance improvement beyond compliance with current regulations is unclear (Miles & Russell, 1997; Yin & Ma, 2009).
- c) Supply chain (SC) management that considers the influence and contribution of business partners, especially buyers committed with green sourcing, to integrate environmental strategies across all SC activities to green the chain (Yin & Ma, 2009). The greening of the supply chain involves the integration of environmental concerns in the management of the chain, from the selection and supply of materials through the manufacturing and distribution of products as well as the management of products at the end of their life cycle (Srivastava, 2007).

The final strategy, the formation of green alliances, represents an opportunity to enhance the firm's green capabilities via networking; the selection of partners with valuable environmental management capabilities is critical. This last strategy seems to be the less explored one but past studies have recognized alliances as a critical factor which can influence small and medium firms to embrace environmental practices (Zhou, 2009). The alliances between private firms and governmental agencies is an opportunity to take advantage of the expertise of environmental professionals (attorneys, economists and researchers) to expand the green actions of

private firms and gain long term advantage or legitimacy (Hemphill, 1995).

2.2 Green Marketing Strategies

Environmental or “green” marketing is an emerging marketing venue by which organizations address environmental issues to contribute to sustainable development (Fraj, Martínez & Matute, 2008). Even within the general classification of corporate environmental strategies, it is difficult to identify typologies based solely on a green marketing perspective. Nevertheless, typologies based on the green marketing concept have been classified as tactical or passive, quasi-strategic or operative, and strategic (Rivera-Camino, 2007). These strategies are implemented by combining the different elements of the 4Ps marketing mix -product, price, communication (promotion) and distribution (place)-and have a clear customer orientation that distinguishes them from greening strategies.

The management of the communication component of the firms’ strategies has been hardly criticized in literature. For example, Peattie and Crane (2005) when citing King (1985) argued that the promotion of traditional products as ecological ones with the expectation of increasing sales, results in a lack of credibility on the part of consumers regarding the true intentions of the development and promotion of green products. Even those firms that have authentic green products have followed a partial communication strategy by focusing solely on the product’s green attributes instead of promoting all its benefits (Ottman, et al., 2006). This perspective fails to recognize that consumer buy products in the first place to satisfy needs, and since green products represent a higher cost/benefit ratio for the consumers (inconvenience and higher price vs. unclear environmental benefits), they do not feel particularly attracted by this kind of green advertising (Roper ASW, 2003). Communication must go beyond green product advertising and include among its objectives the environmental education of the consumer (what to buy, how to dispose of final products) and the diffusion of the green activities realized by the firm (reduction of water and energy, recycling, reforestation) (Esty & Winston, 2009).

Green products go from the design of new products (less harmful to the environment than current ones) to the redesign of original products to mitigate their impact on the environment (Yi & Tsai, 2007). The design of green products involves the minimization of the impact on the environment of both the product and its manufacturing process (Fiskel, 2001 cited by Yi-Chan & Tsai). There are different ways to evaluate a green design; one is based on the analysis of the product life cycle (Bhat, 1993). Products have a different impact on the environment depending on the stage of their life cycles because the consumption of resources and the amount of waste produced varies at each stage (Yi-Chan & Tsai, 2007). The development of ecological products as a component of the marketing mix must result in innovations that make a good match between the product characteristics and the consumer needs (Rao & Reddy, 2012, Yi-Chan & Tsai, 2007). This situation calls for additional efforts in the design and positioning of this type of products in the consumer market. Enviropreneurial marketing recognizes green products represent an opportunity to exploit new markets if the innovation satisfies the economic and environmental objectives of consumers.

In relation to distribution, this is the marketing-mix component with the greatest potential to reduce environmental impacts according to some authors (Fraj, Martínez & Matute, 2011). The research on green distribution has focused on the advantages of: 1) design of a transportation network (modes and routes) to minimize distances, reduce pollutant emissions and decrease fuel use (Rondinelli & Berry, 2000), and 2) design of the supply chain to integrate the direct and indirect logistics activities to ensure an efficient flow of materials and information (Defee, et al., 2009; Gobbi, 2011). This requires determining the best location of facilities, (direct and reverse) distribution centers and final point of sales (recuperation sites) such that the environmental impact of the logistics activities is minimized. From a marketing perspective, one consideration to keep in mind is that green distribution systems may require additional efforts such as the redesign of the distribution network and the development of secondary markets where refurbished products or recycled components may be commercialized (Guide & Van Wassenhove, 2009).

Price is the least studied component in the green marketing literature. The research about price has been oriented to explore the willingness of consumers to pay an extra price for “green” products (Fotopoulos & Krystallis, 2002) and the perception of the economic risk involved when refurbished products or products manufactured from recycled components are acquired. To set prices for ecological products, firms should consider that consumers are looking for value and convenience (McDaniel & Rylander, 1993), with this situation being more evident in the case of consumers from lower classes. This segment cannot afford to buy environmentally friendly products if they are significantly more expensive than their conventional counterparts (Author, 2012; Chan, 1999; Chan & Lau, 2000; Manaktola & Jauhari, 2007). Then the pricing strategy of green products must

take into account the balance between the environmental benefits and the cost of acquiring a new product that already has substitutes in the market with perhaps lower prices (Fraj, et al., 2011). Only those consumers whose values are in alignment with the ecological product will be willing to pay a premium price.

In summary, the design of a green marketing strategy poses the challenge of managing ecological practices across the four 4Ps. A green marketing strategy based only on the promotion of the environmental attributes of a product will not contribute significantly to the concept of sustainability (Chen & Lin, 2011; Peattie & Crane 2005). The limited scope of some of the green actions deployed by firms, for example communication (promotion), may result in a lack of credibility about the true intentions of organizations to be green (King, 1985). The advantage of implementing an authentic green marketing strategy is to gain competitiveness either by reduction of environmental costs, the differentiation of the firm's products as ecological or improved market reputation (Fraj et al., 2008).

3. Methodology

We used a qualitative approach to get a deeper insight on how firms in Mexico respond to the increasing environmental concerns and consider sustainability challenges in their marketing strategy. An inductive multiple case study methodology was employed. Yin (2003) defined case study research as an empirical inquiry that investigates a contemporary phenomenon within its real-life context and in which multiple sources of evidence (interviews and secondary open data) are used. The case study method is desirable when "how" or "why" questions are posed about a complex issue or object over which the researcher has no control. When investigating events that may have little theoretical background or where there is no systematic information about the phenomenon under study, the researcher might select cases to generate preliminary theoretical propositions.

A series of in-depth interviews with executives and managers in thirty four companies was conducted. The choice of companies was based mainly on their commitment to the environment; only those firms with a current program as evidenced from their Web pages or open documents were considered. Multinationals and Mexican firms with local and foreign operations were selected to obtain a more representative pool of firms. The final selection of companies was made after checking that there were firms from different sizes and sectors (commercial, manufacturing and service).

Table 1. Profile of the companies studied

Company, origin of capital	Sector of activity	Size (number of employees)	Role of interviewee
A1 Mexican local	Service, recycling of electronic waste	Small	Owner
A2 Mexican local	Service, restaurant franchise	Large	Customer service and sales manager
A3 Mexican local	Service, solar thermal and electricity provider	Small	Customer service and sales manager
A4 Mexican local	Service, restaurant	Small	Owner
A5 Mexican local	Commerce, pet products	Large	Sales manager
A6 Mexican local	Service, technical services	Small	Sales manager
A7 Mexican local	Commerce, garden products	Small	Project manager
A8 Mexican local	Industry, manufacturer of green products	Small	Sales manager
A9 Mexican local	Service, expo and conference coordinator	Small	Director
A10 Mexican local	Industry, manufacturer of disposable containers	Small	Operations and logistics manager
A11 Mexican local	Service, communication	Large	Communication manager

B1 Mexican international	Commerce, sustainable energy systems	Large	Environmental/marketing advisor
B2 Mexican international	Industry, beverage manufacturer	Large	Social responsibility manager
B3 Mexico international	Industry, beverage manufacturer	Large	Social responsibility manager
B4 Mexico international	Industry, food manufacturer	Large	Marketing manager
B5 Mexico international	Industry, building materials manufacturer	Large	Human resources manager
B6 Mexico international	Industry, poultry producer	Large	Sales manager
B7 Mexico international	Industry, auto parts manufacturer	Large	Operations manager
C8 Germany	Industry, manufacturer of chemical products	Large	Public relations manager Operations manager
C2 USA	Service, restaurant franchise	Large	Sales manager
C3 France	Industry, auto parts manufacturer	Large	Production systems manager
C4 Brazil	Industry, personal care products manufacturer	Large	Corporate analyst; Managing director
C5 USA	Industry, manufacturer of electronic products	Large	Sales manager
C6 Germany	Industry, automaker	Large	Technical trainer
C7 USA	Industry, food and beverages manufacturer	Large	Brand manager; Chief Executive Officer
C8 USA	Industry, software manufacturer	Large	Learning and development manager; Latin America marketing director
C9 USA	Industry, manufacturer of consumer goods	Large	Operations manager
C10 USA	Industry, pharmaceutical	Large	Marketing manager
C11 United Kingdom and Netherlands	Industry, manufacturer of consumer goods	Large	Corporate affairs director
C12 USA	Industry, electronic products	Large	Social responsibility manager; Environmental program executive
C13 USA	Commerce, retailing	Large	Sustainability manager
C14 Netherlands	Service, transportation	Large	Customer service manager
C15 USA	Industry, manufacturer of consumer goods	Large	Project manager
C16 USA	Industry, food and beverage manufacturer	Large	Marketing brand executive

A general description of the companies in the study is given in Table 1. The size of the company is established in terms of Mexican standards based on the number of employees. Twenty two of the companies are in the consumer market, five in the industrial market and the remaining seven serve both the B2B and B2C markets. Companies are identified by codes (A = Mexican local, B = Mexican international and C = multinationals with operations in Mexico) to assure anonymity as requested by the interviewees.

The interviews were semi-structured and focused on the following question: "What is the extent of the current

environmental programs of the firm and the green marketing mix that supports these programs?" The interviews were conducted during personal visits to companies, and clarifications were sought through e-mails and phone calls. The average length of an interview was limited to an hour because Mexican executives are very reluctant to have long interviews. Information gathered during the interviews was transcribed for analysis.

The method used to analyze the information was Thematic Analysis (Boyatzis, 1998). The analysis consisted only of two phases: the development of themes and codes, and the validation of codes. The first phase was performed independently by the authors and then cross-validated until a consensus was reached. Generally, the reliability of qualitative research is assured when the codes developed by different researchers are in total agreement or, in cases of discrepancies, original data are revised to attain consensus. To strengthen and verify the quality of the interview data, other sources of information about the environmental activities of the companies were also analyzed, such as companies Web sites and published documents open to the general public. In some cases (eight), two different executives were interviewed to cross-check information and increase the validity of results. General emerging themes shared by all interviews are discussed in the following section.

4. Findings and Discussion

4.1 Current General Green Strategies

The first part of the analysis was the identification and classification of all activities in support of the environment performed by the enterprises interviewed. Separate tables (shown below as Tables 2, 3 and 4) for each type of company (Mexican local Mexican with foreign operations, and multinational) were prepared because of the interest to compare the activities deployed by companies with different capital origins.

Table 2. Description of green activities performed by Mexican companies with local operations

Activity classification	Description of environmental activity	Companies
Products	- Manufacturing or distribution of green products (radical and incremental innovations)	A3, A4, A6, A8
	- Substitution of regular products and materials by ecological products and materials (biodegradable and/or organic)	A2, A5, A7, A8
	- Packing reduction or substitution	A10
Transportation and distribution (Place)	- Use of collective transportation for consumers	A9
	- Transportation network operating under a carbon trading scheme	A10
Communication (Promotion)	- Massive campaigns to create awareness among customers and suppliers about sustainability issues and solutions (recycling of materials, alternate energy sources)	A10, A11
	- Environmental information and tips via on-line and directly with local communities and schools	A2, A7
	- Showrooms and direct sales of green products manufactured or commercialized by the firm	A3, A5, A6, A8
	- Promotion of environmental practices via social networks	A1, A3, A9
Reduction of resources or waste	- Energy	A2, A4, A10, A11 A4,
	- Water (reduction and treatment for reuse)	A11
	- Use of recyclable materials	A3, A6, A7, A11
Price	- Paperless environment and reduction of operating supplies	A10
	- Justification of premium prices due to the use of more ecological products and materials	A2, A3, A4, A5,
	- Financial credits offered to stimulate the acquisition of environmentally-friendly products	A8, A10
	- Portfolio of green products with menu of prices to serve price-sensitive consumers	A3
Environmental responsibility	- Efforts to sustain market prices even though products are made with ecological materials that are more expensive	A3, A5, A6, A10 A7
	- Recycling of materials used by the firm	A2, A4
	- Green certifications (ISO 14000, M-distinction, NADF013, RNAT2007)	A4, A7, A8
	- Reforestation	A9

Table 3. Description of green activities performed by Mexican companies with foreign operations

Activity classification	Description of environmental activity	Companies
Products	- Manufacturing or distribution of green products (radical and incremental innovations)	B1, B5 B4
	- Substitution/reduction of materials	B2, B3
	- Packing reduction, substitution of packing materials and use of recyclable packages and bottles	
Processes	- Redesign of production processes to save water or reduce pollution	B5, B6
	- Byproducts and waste are processed or sold to manufacture additional products	B3, B6
Reduction of resources and waste in general operations	- Energy	B2, B3, B4, B5 B4, B2, B3,
	- Use of alternative sources of energy	B6
	- Water (treatment for reuse)	B5
	- Use of recyclable materials	B5
Communication (Promotion)	- Paperless environment and reduction of operating supplies	B5
	- Massive campaigns to create awareness among customers and suppliers about sustainability issues and solutions (recycling of materials, alternate energy sources)	B2, B3
	- Environmental information and tips via online and directly with local communities and schools	
	- Showrooms and direct sales of green products manufactured or commercialized by the firm	B1, B2, B3, B5
Prices	- Promotion of environmental practices via social networks	B1
		B2
	- Efforts to sustain market prices even though products are made with ecological materials that are more expensive	B2
Environmental responsibility	- Justification of premium prices due to the use of more ecological products and materials	B1
	- Financial credits offered to stimulate the acquisition of environmentally-friendly products	B1
	- Recycling and reuse of materials used by the firm	B2, B3, B7
Environmental responsibility	- Green certifications (ISO 14000) and carbon footprint for products	B2, B5, B7
	- Reforestation	B3, B4, B5
	- Preservation of regional water sources	B3

Table 4. Description of green activities performed by multinationals with operations in Mexico

Activity classification	Description of environmental activity	Companies
Products	- Research and development, and manufacturing of green products (radical and incremental innovations)	C1, C3, C4, C5, C6, C11, C12, C15
	- Substitution/reduction of materials	C1, C2, C3, C4, C5, C8, C9,
	- Packing reduction, substitution of packing materials and use of recyclable packages and bottles	C10, C11, C12
	- Reuse of containers and pots	C4, C5, C7, C8, C11, C15, C16
Processes		C2, C4
	- Redesign of production processes to save water or to reduce pollution	C1, C6
	- Adoption of more environmentally friendly technologies	C3, C7, C14
	- Byproducts and waste are processed or sold to manufacture additional products	C9
	- Substitution of fuels in service delivery processes	C14

Distribution and inverse logistics (Place)	- Substitution of materials in maintenance processes	C14
	- Promotion of green transportation during direct distribution	C3, C7, C15
	- Recuperation and treatment of obsolete or discarded products manufactured by the company	C5, C12, C15, C16
Reduction of resources and waste	- Energy	C1, C3, C5, C6, C7, C8, C9, C11, C13, C15, C16
	- Water (reduction and treatment for reuse)	C1, C3, C7, C13, C15, C16
	- Use of recyclable or returnable materials	C2, C3, C16
	- Paperless environment and reduction of operating supplies	C4, C10, C11, C16
Communication (Promotion)	- Massive campaigns to create awareness among final consumers, industrial customers and suppliers about sustainability issues and solutions (recycling of materials, alternate energy sources)	C1, C2, C5, C6, C8, C10, C12, C13, 15, C16
	- Environmental information and tips via on-line and directly with local communities and schools	C1, C4, C11, C14, C16
	- Showrooms and direct sales of green products manufactured or commercialized by the firm	
	- Promotion of environmental practices via social networks	C5, C6
Prices		C16
	- Efforts to sustain market prices even though products are made with ecological materials that are more expensive	C14, C15, C16
	- Justification of premium prices due to the use of more ecological products and materials	
	- Bonus offered for the next purchase when returning obsolete products	C6, C11
	- Savings to the customer by re-using containers and pots or asking for refills	C5
Environmental responsibility		C2, C4
	- Green certifications (ISO, Dow Jones Sustainability Index, Carbon Disclosure Leadership Index, CPLI, Water Foot Print, Digital Foot Print)	C1, C3, C4, C6, C9, C10, C12, C14, C16
	- Special functional area that coordinates the environmental and sustainability efforts of the enterprise	
	- Recycling of materials used by the firm or its employees	C3, C7, C12, C13, C15, C16
	- Selection of green suppliers	C1, C3, C4, C6, C8, C10, C12, C13, C16
	- Reforestation and preservation of regional natural resources	C3, C13, C16
		C1, C12, C15, C16

Within the general classification of green strategies provided by Cronin et al. (2011), we identified two main greening strategies.

a) Resource savings and waste reduction. As expected, the most popular environmental actions declared by the interviewed firms correspond to a general greening strategy related to energy and water savings, with process efficiency in second place. Through these actions, the firms both promote a “green” image in the market and attain benefits in terms of cost cuts and the control of air emissions, pollution and disposal of industrial sewage. The high cost of energy and fuels (gas and petrol) in Mexico stimulates firms to save or use alternative sources of energy as demonstrated in the following quotations:

In 2002 ... 49 solar collectors were install to warm water... thermal sleeves were mounted in injection machines to reduce the use of electric energy... In 2006 we increase the number of containers for the treatment of residual water and in 2007 grease traps ... to filter water and reuse it for irrigation. In 2008 we changed lamps to save

energy (C3, multinational).

The implementation of a Reverse Osmosis System improves the quality of water to generate vapor and reduces water and air emissions... the reduction in the [number] of blow purges also reduces fuel consumption (C1, multinational).

We acquired technology to treat sewage... we conducted studies about water pollution and have indexes related to how the areas nearby the processing plant are affected... the mud produced after treating the water may be used as fertilizer... there are also bacterial treatments (B6, Mexican with foreign operations).

In addition, around half of the multinationals and Mexican firms with foreign operations have introduced new process technologies to improve their process efficiency and save energy:

...adoption of a [alternate technology] with the lowest worldwide fuel consumption and with 18% less carbon-dioxide emissions than other technologies (C14, multinational).

Mexican local firms do not report any efforts to green their processes.

Other frequent resource savings are related to the use of recycled materials and the reduction of operating supplies in low value added operations. These types of savings were more commonly reported by small Mexican local firms:

We substitute presentation cards, sheets, flyers for recycled materials. Even the employees uniforms are made with PET recycled fibers... (A11, Mexican local).

We try to reduce printing and all the sheets are recycled (A10, Mexican local).

Meanwhile, three of the largest companies (one multinational and two Mexican with foreign operations) sell their byproducts to the manufacturers to reduce solid waste:

All the solid waste [of our main production lines] and discarded packages are sold to enterprises that use them as inputs for multiple products (C9, multinational).

b) Certification and acknowledgment of environmental responsibility. The second general greening strategy identified by Cronin et al. (2011), implementation of a formal environmental management system, was observed by several firms. But in general, the social pressure of environmentalist groups and the Mexican government efforts to regulate environmental issues have resulted in the consideration of the environmental sustainability concept into the firm's business practices.

In the case of multinationals, the majority of them have green certifications (11 out of the 16 surveyed) and have created special functional areas responsible of the administration of their environmental programs (6 out of the 16 multinationals). The following quotations exemplify this point:

...our investors are progressively giving more importance to sustainability issues. The actions of the enterprise are included in many indexes and sustainability funds. For example, since 1999 the enterprise has been continuously represented in the Dow Jones Sustainability Index and in the Carbon Disclosure Leadership Index since 2011 (C1, multinational).

There is a team dedicated to the sustainability topic. This [staff] is working in the understanding of the best technologies we may adopt in terms of cost and benefit [to the environment] (C7, multinational).

In contrast, most of the Mexican companies have not formalized or certified their environmental actions. Only three of the seven Mexican firms with foreign operations have green certifications. A similar situation is observed in the group of local Mexican firms, where only 3 out of 11 are green certified.

As recognized by Miles & Russell (1997) and Cronin et al. (2011), the value of this green certification strategy in the market is unclear because many of the actions to get official recognition are internal (Note 1).

Evidence of the implementation of the last greening strategy, management of the supply chain, was not found after the analysis. None of the interviewed firms declared making special efforts with a transformational leadership to collaborate with their business partners to green the chain, or to integrate the forward and reverse flows of products to minimize the impact of their business activities on the environment (Defee et al., 2009).

With respect to the second general environmental strategy, green innovation, none of the interviewed firms was identified as a leader in green innovations. In the case of small Mexican companies with only local operations, some have an exclusive offer of ecological products but they are not manufactured by the company that only acts as a distributor. These enterprises are the result of eco-entrepreneurship efforts and since their creation, they decide to serve the green market by offering a variety of environmental friendly products (solar panels,

bio-plastics, re-manufactured and recycled products). With respect to larger companies, especially the multinationals, several of them have extended their product lines by developing green products. However, these ecological innovations are only a sub-group of their product innovations; for this reason these product extensions are discussed in the following section. Finally, any indication of a green alliance strategy was not observed at all in this study.

4.2 Green Marketing Strategies

This section outlines the marketing strategy followed by firms operating in Mexico to address the second objective of the study. To accomplish this, environmental actions described in Tables 2, 3 and 4 were additionally organized after the four marketing Ps: product (re-design), communication (promotion), distribution (place), and price strategies.

Table 5. Examples of specific actions among 4Ps of green marketing

Products	- Research and development, and manufacturing of green products (radical and incremental innovations)	[We] created prototypes with zero-emissions [including] electric vehicles and hybrids... [these vehicles] are tendered to institutions and customers to get feedback... to improve them. We expect in 2013 to have an electric car with zero emissions... The car was designed based on customer needs... the vehicle facilitates mobility in megacities... with high traffic and represents [benefits] to the environment and to the economy of the buyers (C6, multinational).
	- Substitution/reduction of materials	[We have multiple products] the biodegradable pen, synthetic grass with a wheat base... we even have [biodegradable] jewelry... this kind of product is uncommon in Mexico, we are the first [local] firm truly specialized... and we sell at retail but also in large quantities to distributors... (A8, Mexican local).
	- Packing reduction, substitution of packing materials and use of recyclable packages and bottles	[Within one of our product lines] we have redesigned packages with FSC [Forest Stewardship Council] certification. They use 40% recycled paper... PET pots have 50% of recycled materials. The refills are made from green plastic instead of petroleum. This green plastic is 100% recyclable and reduces 97% the generation of residuals (C4, multinational).
	- Reuse of containers and pots	The firm reuses containers for the products, and also we have a campaign that encourages the consumer to reuse bags and glasses (C2, multinational).
Promotion (Communication)	- Massive campaigns to create awareness among customers and suppliers about sustainability issues and solutions (recycling of materials, alternate energy sources)	In collaboration with Wal-Mart we are making an advertising campaign to encourage the use of biodegradable products. With [other] private companies we are promoting the use of green products. [We also] have joint campaigns with the government to stimulate the use of biodegradable products (A10, Mexican local).
	- Environmental information and tips via on-line and directly with local communities and schools	Through the Web page we have on-line campaigns and annual reports about sustainability topics which are directly sent to several stakeholders... [we also have] campaigns through social networks as well as conferences and talks at schools (B3, Mexican foreign).
	- Showrooms and direct sales of green products manufactured or commercialized	We directly commercialize products and services that create awareness about the positive use of alternate sources of energy (B1, Mexican international). Our major coverage method [to approach consumers

	by the firm	about sustainability issues] is the social networks, including Face book, Twitter, and YouTube... (A3, Mexican local).
	- Promotion of environmental practices via social networks	
Prices	- Efforts to sustain market prices even though products are made with ecological materials that are more expensive	We try to have accessible prices by reducing the cost of fleets and other [logistics] costs... we also try to reduce the cost of materials, increase marginal efficiency ... and decrease the amount of materials [to reduce global costs] (A7, Mexican local).
	- Justification of premium prices due to the use of more ecological products and materials	Since green products require more... work, they usually have high prices with respect to regular products, but... consumers who buy these products have higher purchasing power. The products are promoted as friendly with the environment, but their additional benefits are also mentioned in order to show potential buyers that besides the positive environmental impact they have higher quality (C11, multinational).
	- Bonus offered for the next purchase when returning obsolete products	[There is a green campaign] focused to environmental preservation that consists of the recuperation of obsolete electronics, [a third party] recycles these products and the consumer receives a bonus or discount to buy a new product. The bonus [value] depends on the conditions, year, and model [of the returned product] (C5, multinational).
	- Savings to the customer by reusing containers and pots or asking for refills	... the refill options for our products not only reduce the environmental impact but represent savings of 20% to the customer (C4, multinational).

Relevant quotations are reported in Table 5. Distribution (place) is not included in the table because only a few of the companies (almost exclusively multinationals) reported actions related to green transportation (use of carbon trading schemes, full-truck transportation and substitution/maintenance of vehicles) or the adoption of the green supply chain concept. The following quotation is representative of this type of distribution efforts:

“We have worked with our suppliers to have the friendliest environmental transportation (C3, multinational)”.

In terms of product strategies, multinationals and large Mexican companies with foreign operations are the most innovative in product design. Redesign of the product goes from reduction in the use of raw materials or package (most companies) to investment in R&D to develop products that consume fewer resources (water or energy). However, as previously stated, none of the companies are completely engaged with ecological innovations.

With respect to price, the two main strategies are: 1) prices similar to those of regular products as a result of cost cuts in other activities such as logistics and promotion and 2) justification of premium prices because the product has green attributes that are more expensive. The first strategy is deployed mainly by small local companies that try to gain market share while the second strategy was more frequently cited by multinationals and large Mexican companies that are aware that green consumers are less sensitive to price.

Finally, communication activities include massive campaigns, direct communication especially in schools and use of social networks to inform and persuade individuals to adopt pro-environmental behaviors. Large companies sponsor these types of efforts and also use massive media to communicate their own green marketing activities. On the other side, small companies have created alliances with large retailers and government agencies to implement communications campaigns focused on promoting reduction of consumption, reutilization and recycling of products among the population.

5. Conclusions

5.1 Academic Contribution

The categorization of green actions as elements of the four marketing Ps may be useful to assess the progress of a firm's marketing strategy and identify opportunities for improvement. The exclusive diffusion of the firm's green actions, which has been a general practice among firms, is at most social advertising and may contribute to the consumer's confusion and loss of confidence (Melton & Tinsley, 1999). The potential of the green marketing concept has not yet realized by firms operating in Mexico. This is evidenced by the two main strategies observed: "resource savings and waste reduction", and "certification and acknowledgment of environmental responsibility". This work aims neither to evaluate the effectiveness of these green strategies nor to catalogue them as "false green marketing". It instead seeks to highlight that present greening strategies reflect a short-term perspective and represent a relative low functional complexity for implementation. These strategies are focused not on long-term eco-efficiency and sustainability resulting from integrating economic, social and environmental issues into organizational performance, but on: a) immediate benefits related to cost, productivity improvement and avoidance of legal penalties and social conflicts (Banerjee, 2002); and b) medium-term advantages associated with an environmental responsibility oriented to gain legitimacy and the right to self-regulate and certify their ecological initiatives (Carrete, Arroyo and Trujillo, 2014a). The lack of a long-term perspective, top management commitment and low environmental governmental and public demands (Banerjee, 2002; Cater, Prasnikar and Cater, 2009) for environmental problems results in limited product or process innovation and little interest in building closed-loop supply chains to minimize the environmental impact of manufactured products along their life cycles.

The study results reveal the absence of an authentic green marketing strategy that integrates all the elements of the marketing mix to improve environmental performance and in the long run to advance the competitive position of the firm. For example, the concepts of green supply, green transportation and reverse logistics that are part of the distribution component are ignored by most of the enterprises. The green practices implemented by most of the interviewed firms (mainly Mexican) correspond to: 1) a tactical or passive marketing strategy which not involves the whole organization and is defined at the middle management level (Rivera-Camino, 2007); or 2) a lean or defensive green marketing strategy with a narrow functional range, partial coverage of the elements marketing mix and unsupported by all functional areas (Chen & Lin, 2011). But when an organization does not have adequate green capabilities, serves a market uninterested in ecological products or services and operates under weak environmental public and legal pressure, it is more appropriate to follow a tactical or operative strategy that allows the introduction of environmental actions in an incremental manner (Fraj et al., 2011). This is the case of the Mexican context, where consumers are not particularly enthusiastic to perform pro-environmental behaviors (Carrete, Arroyo & Trujillo, 2014b) and environmental regulations are more oriented to pollution control than to environment protection and restoration (Instituto Nacional de Ecología [INE], 2014). This setting does not stimulate firms to integrate their green practices into their marketing strategy and offers and explanation to the observed marketing strategies.

The enterprises with more proactive green marketing strategies are larger ones. Multinationals in particular, have more advanced marketing strategies (quasi-strategic or strategic according to Rivera-Camino, 2007) than Mexican firms, especially the local ones. This situation was also observed by Carter et al. (2009) in the case of Slovenian manufacturing companies which operate in a similar developing context like Mexico. The most outstanding differences between large and small firms were observed in distribution and product innovation. With respect to the product component, multinationals cited more frequently they are conducting research to develop ecological products that complement or enhance their current regular lines. Product R&D was also part of the strategy of large Mexican firms with foreign operations while for 5 of the 11 local Mexican enterprises, the product component was exclusively addressed via the commercialization of green products. The greater product innovation efforts reported by firms with international operations may be attributed to the growth of the global green market. The need to fulfill international environmental regulations also seems to contribute to the superior interest of transnationals to go beyond compliance with legislation and include green practices as part of their CSR policies. This last statement goes in line with the results reported by Fraj et al., (2011) for Spanish firms and Carrete et al. (2014a) for Mexican firms.

A company can be said to have a pro-active green marketing strategy only if it systematically plans to integrate environmental activities into its long-term general strategy. Besides defining what are the current green marketing strategies pursued by firms operating in Mexico, future research requires to find out what strategies enhance business and environmental performance, which factors influence the implementation of an authentic green strategy and how this elements are related (Carrete et al., 2014a). The results of this study only show

current green marketing practices but the elaboration and validation of a causal model as suggested by Cater et al. (2009) is going to be addressed to complete this research and enhance the body of knowledge in the area of green marketing.

This study is not without limitations. Even though multiple cases covering enterprises with different profiles were included, the results cannot be generalized to the total population of enterprises that operate in Mexico.

5.2 Practical Implications

The experience of the cases analyzed indicates firms operating in Mexico argue the actual low environmental consciousness of the market does not favor the deployment of a green marketing strategy. However, the concern about the environment is increasing and eventually public and legislative pressure will drive firms to integrate an authentic green marketing strategy. Those enterprises that decide to compete in their markets by being green will find relevant the following recommendations:

- 1) Define product, price, communication (promotion) and distribution (place) based on comprehensive market research to match the ecological attributes with the consumer needs, attitudes, knowledge and values;
- 2) Take a long-term approach to environmental problems that goes beyond adaptations or low-value modifications of products and processes, i.e. avoid “green harvesting”;
- 3) Analyze the impact of product and processes along the complete product life cycle and consider that true green marketing efforts need to go beyond design and production;
- 4) Include in the communication component both the current environmental actions of the firm and information that helps consumers to change their lifestyles;
- 5) Design good metrics to measure the benefits of environmental efforts and the advantages of a positive “green image” that can’t be measured in cost terms; and
- 6) Remember that CRS is a shared responsibility. Marketing can offer valuable ideas to go beyond compliance with current regulations.

Mexican environmental regulations may be designed to motivate firms to engage in more transcendental environmental practices, in particular for local Mexican firms. At the beginning of the 1990s with the General Law of Ecological Equilibrium and Environment Protection, regulations for the protection, conservation and rational use resources were formally considered by the Mexican government (INE, 2013). Increased surveillance and fines were imposed on organizations and as a result, large corporations implemented anti-pollution measures but smaller firms expressed great concern for the associated costs. Given these antecedents, policy makers would need to take into account 1) the costs borne by firms, 2) offer some kind of incentives (e.g. tax reduction), 3) give financial support for the acquisition of cleaner technologies and 4) provide evidence of the long-term savings associated with efficient and non-pollutant processes.

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Note

Note 1. The Mexican Center for Philanthropy (CEMEFI) is the recognized institution that grants Social Responsibility certifications (ESR distinction). This civil association has established standards for this certification that include the preservation of the environment.

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