New facets of quality. A multiple case study of green cosmetic manufacturers

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ABSTRACT

Despite the recent concern about social, environmental and economic perspectives of sustainability, the issue is relatively under-researched and very little is known about the drivers of sustainability. There is no doubt that innovation is one of those drivers. The aim of the present article is to analyse the technological (product and process) and non-technological (marketing and organisational) innovation, R&D strategy, marketing and competitiveness position of the chemical companies that are engaged in the manufacture of green, natural or conventional cosmetics with the ultimate aim of achieving high quality products and business excellence. The study reported here is qualitative in approach and uses empirical evidence from six case studies representing companies located in Catalonia, Spain, one of the main cosmetic producers of Europe. The results are discussed in the light of structural and managerial perspectives with the aim of drawing implications for both practitioners and policy-makers.

KEYWORDS

Quality, innovation, cosmetics.

1. Introduction

Nowadays, the concept of natural is gaining importance across all economic sectors. This new concept involves using only organic or natural ingredients in products, avoiding toxic, DNA altering or carcinogenic substances. The cosmetic industry is not unaware of this trend. In fact, the use of natural ingredients is one of the many challenges that the cosmetic industry has faced since the 90s, including regulatory changes, product safety concerns, calls for scientific data to document product claims, increasing environmentalism, pressure from the growing animal rights movement, economy and market channels for product distribution (Kumar, 2005).

The use of natural cosmetic products involves the use of sustainable agriculture, namely, organic farming. It focuses on the optimal use of natural resources and does not employ synthetic chemical products or genetically modified organism (GMOs) and produces organic products while preserving the fertility of the land and respecting the environment.

According to Soulioti (2013) the use of cosmetics is rapidly increasing on an international scale. This has subsequently brought about an increase in the production of new raw materials as well as the manufacture of new kinds of cosmetics which are being used by beauty salons today.

At the same time, this has led to the development of research into the positive and the negative effects of both the raw materials and the final products. Nowadays, the raw materials used for the manufacture of cosmetics are basic substances. Scientific research has proved that many of them can cause problems such as allergic dermatitis, acute inflammation dermatitis and so on. For this reason, laws have been passed that ban the use of certain substances and or limit the level of their use. These measures have been embodied in the legislation of each European country, for example RD 1559/1997 in Spain. However, from July 2013, there is only one new law, 1223/2009.

Cosmetic products are highly regulated, but not exempt from possible adverse reactions. The aim of the law creates a free European market for cosmetic products and to guarantee the health and safety of the consumers through the establishment of (i) a number of technical limitations on cosmetic composition, and (ii) requirements for the information that must be available to the authorities and the general public. The beauty industry has two characteristics: high regulation and high consumer trust, which is built on well-established, world-wide manufacturing brands (Burt et al., 2005).

Although the consumption of natural cosmetics is lower than the consumption of conventional cosmetics, studies indicate a growth rate of 15% for natural products compared with 5% for conventional cosmetic products (Alcalde, 2008). However, there are some barriers which prevent the consumption of natural products. Most obvious among these barriers is identifying the difference between natural and other products, and checking that supposedly natural products conform to the necessary standards.

This paper has two objectives. It reports a quantitative and qualitative research study of the technological innovations introduced by manufacturers of cosmetics in general and particularly manufacturers of green and natural cosmetics. It also contrasts differences in structural and operational characteristics. The target of cosmetic industries analysed are located in Catalonia (north-east of Spain) which is home to 42% of the industry in Spain in terms of employment and value added (STANPA, 2013).

The present paper describes different key success factors in Catalan manufacturers of cosmetics. The study employs the concepts of key success factors (KSF), type of innovation, economic sector, type of industry, geographic zone and type of cosmetic.

This paper is organised as follows. After the first, introductory section, the main features of the cosmetic industry in general, and the green producers in particular, are described. Next, in Section 3 present a review of the literature about the topic. The fourth section explains the sample and the methodology used. The fifth part contains the main results. The papers end with conclusions.

2. Cosmetic industry background

This section presents the types, definitions and composition of cosmetic products. According to the new regulation UE 1223/2009, the definition of a cosmetic product is any substance or mixture intended to be placed in contact with the external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance, protecting them, keeping them in good condition or correcting body odours.

Three types of cosmetic products must be considered: conventional, green and natural cosmetics. Conventional cosmetics are the most well-known and include chemical ingredients that are usually of low quality.

Green cosmetics have ingredients from organic cultivation without pesticides or chemical fertilizers that have not been genetically modified. These cosmetics are free of preservatives, colorants, synthetic fragrances, silicones or mineral oils derived from the petrochemical. Natural cosmetics use natural active ingredients but without guaranteeing either their quality or origin. Natural cosmetics may include chemical ingredients.

Green and natural products are fashionable because they avoid toxic, DNA altering or carcinogenic substance. For this reason, brands introduce green lines of products in order to attract new customers who prefer the green alternative. Natural and green cosmetics are an alternative to conventional cosmetics and achieve a privileged position in the beauty market.

Cosmetic products have three components: active ingredients, a base and additives. The active ingredients are the most important component and it is the activity of the ingredients (moisturizing, reaffirm, regenerate, etc.) that gives visible results and determines the price of the cosmetic. These active ingredients may be vegetable, mineral, animal or synthetic. The base is the component that gives texture, but it may cause allergies. The principle ingredient of the base is water, but may also include alcohol or products derived from petrochemicals. The percentage of active ingredients, which is usually lower than 3%, and the quality of the base make the product more or less efficient.

The additives are colorants, preservatives and perfume. According to Roquero (2010) the additives are responsible for cosmetic smell, good appearance and protection. These additives can also cause allergies in the same way as the base. Therefore, the trend is to reduce this component to avoid allergies.

3. Trends in the cosmetic industry

Currently, the concept of innovation has an important influence on the competitiveness of companies. Innovation is crucial to the growth of a company because companies that do not generate good new products or processes lose competitiveness. For this reason, the companies focus on the implementation of business strategies that retain competitiveness in the market, such as good business management, a process of continuous innovation and detection of improvement points and good practice.

Manufacturers apply innovative developments to all the products in the market. Innovation has been a crucial element in cosmetics products since they were first developed for sale and innovations have been possible because of the application of science to the manufacture of cosmetics products.

Łopaciuk and Łoboda (2013) present an overview of the global beauty care products industry at the beginning of the XXI Century, tracking product categories, main geographic regions and mass/premium cosmetics segments. They classify the trends in the cosmetic industry in four categories: marketing trends, distribution trends, product trends and emerging market trends.

In terms of marketing trends, Lennard (2011) highlights how organic beauty products – natural cosmetics, manufactured in accordance with fair-trade philosophy – have gained importance in the market, spreading from a niche occupied by a small number of companies to being incorporated into the mainstream market and distributed through standard channels such as supermarkets and department stores.

Łopaciuk and Łoboda (2013), Barbalova (2011) and Moulin (2012) emphasize how a change in distribution channels has occurred since the beginning of the present century. Their main conclusion is that the Internet is growing in importance as a retailing channel. According to Euromonitor International (2011), online sales accounted for 3% of global cosmetic sales in 2010, while in the top three online markets – South Korea, France and the United States – they accounted for between 5.8% and 7.5%.

Kumar (2005) affirms that four important trends in technology and innovation are setting the pace in today's cosmetics market. The first one is related to distribution, because, as noted above, information systems are used to enhance market share. The other three trends relate to products: (i) the growing proportion of transitive cosmeceuticals in the cosmetic market, (ii) special cosmetic products for aging populations and (iii) special products for ethnic groups.

Łopaciuk and Łoboda (2013), identify two trends in product innovation in recent years: time-saving and the long-lasting products. Time-saving products are a response to the needs of today's ever-busy consumers who want to limit the amount of time spent on their daily beauty routine. As a result, a lot of research has been conducted on products such as quick drying nail polish or multi preparations like 3-in-1 shower gel, facial wash with shaving foam or hybrid products for the face that incorporate elements of make-up, skincare and sun protection. In recent years the most dramatic, world-wide market growth took place in Brazil and China, which are both lucrative markets (Łopaciuk and

Łoboda, 2013). Euromonitor International (2011) predicts that the Latin America will become the third largest region globally.

The cosmetic industry needs to respond to the specific demands from emerging countries, customizing their products. Euromonitor International (2011) gives some examples, including skin whitening creams in Asia, men's skin care in India and hair straightening creams in Latin America.

In addition, there is a growing demand for organic products, manufactured in a sustainable way, often according to the fair trade philosophy, mainly from the traditional markets of Europe and the US.

The overall conclusion about the current trends in the cosmetic industry can be summarized in three points: (i) the future demand of cosmetics will be fuelled mostly by the emerging markets of Asia and Latin America, (ii) the cosmetic industry must adjust its distribution strategy to new retailing channels like the Internet and, (iii) there is a need to create customized products for the emerging markets and natural products based on technology for the traditional markets of Europe and the US.

The Spanish cosmetic industry is characterized by a high level of innovation in luxury brands and also by generic brands and secondary brands. Innovation focuses on product differentiation. The sector has been boosted by major companies that have managed to convert personal care cosmetic products into their own brand to drive growth. This is the case of Mercadona supermarket with Deliplus and DIA supermarket with the recent acquisition of the Iberian subsidiary of the German company Schlecker. This strategy is becoming a trend in the industry. All types of brands, from low-cost generic brands to high quality exclusive brands, have a strong investment in innovation.

While almost all subsectors in the cosmetics industry have been affected by crisis, luxury brands, including green and natural cosmetics, have been resilient. According to STANPA (2013), the Spanish luxury market had € 4.2 m of revenues, an increase of 20% on last year. Therefore, this segment has great potential and must be analysed in detail because they represent a growth segment and this trend will continue and will influence the whole cosmetics market.

4. Methodology

In this section, we describe the method followed for collecting empirical evidence. A qualitative approach was used to identify patterns of innovative behaviour in sustainable

and value-added products. The case study approach enables researchers to immerse themselves in rich data and reflect the longitudinal or dynamic progress of an establishment or phenomenon. Cases are descriptions of particular instances of a phenomenon that are typically based on a variety of data sources (Yin, 2009).

The main methodological instrument used was a semi-structured interview guideline. The interview was developed based on the questionnaire of the Community Innovation Survey (EUROSTAT, 2014) and the European Manufacturing Survey (ISI, 2014), which are both relevant innovation surveys. Regular technological and non-technological survey items were adapted into an interview sequence. Additional aspects, characteristic to cosmetic companies, were added after an extensive review of the literature and sector-specific report.

The main criterion for case selection is diversity. Cases were selected to present variety in products, operations and differentiation factors, while remaining within the same industry, namely manufacturers of cosmetic products. Each case adds some specific feature and contributes to sector-specific idiosyncrasy. These aspects are illustrated in Table 1.

Face-to-face interviews took place in the habitual work place of respondents, who were production or innovation managers. Interviews lasted approximately one hour, which was long enough for a discussion ranging over five thematic areas: i) general operational and structural characteristics of the company, ii) natural ingredients/products and certification, iii) innovation and expected impacts, iv) technological innovation, and v) non-technological innovation. The full methodological details of the study are described in Table 2.

EAMR

European Accounting and Management Review

Case	Employees	Markets	Type of cosmetic manufactured	Main activity	Mission statement/values
NATURAL1	Micro	Local 30% National 60% EU Market 10% Others Continents 0%	Green and natural	Plant based cosmetics and aromatherapy	A brand of facial and body products, a luxury for skin due to their quality
NATURAL2	Micro	Local 20% National 60% EU Market 10% Others Continents 10%	Green and natural	Hair and scalp disorder specialists	Our best guarantee is our customers' trust
CONVENTIONAL1	Small	Local 0% National 70% EU Market 20% Others Continents 10%	Conventional	Cosmetics and treatment production	We work according to a quality management system continuously controlling for quality of both the raw materials and the final products
CONVENTIONAL2	Micro	Local 45% National 45% EU Market 10% Others Continents 0%	Conventional	Specialized in the dermocosmetic and fragrance markets	Distributes high value cosmetic actives... our portfolio only has technological and value added products, and we provide with all the technical and creative support
CONVENTIONAL3	Small	Local 45% National 30% EU Market 10% Others Continents 5%	Conventional	Develop, formulate and manufacture professional cosmetics and medical device	Quality, security and improvement of your product's development and manufacturing
HYBRID	Medium	Local 4% National 35% EU Market 10% Others Continents 50%	Green, natural and conventional	Professional skincare products	Professionalism, quality, innovation and integrity are the values that constitute the essence of our company and that have persisted unaltered over half a century

Table 1. Interviewed companies

Geographic area	Catalonia (Spain)
Main sector of interest	Manufacturers of cosmetic products
NACE code	2042 - Manufacture of perfumes and cosmetics
Total number of companies	89
Documentation	Presentation letter, interview guideline
Average duration of interviews	60 minutes
Contacted companies	10
Valid interviews	6
Follow-up and reminders	E-mail and telephone
Period of interviews	May – August 2013
Interview management	Literal transcript
Data analysis	Within- and cross-case analysis

Table 2. Methodological summary

Initially a within-case interpretation was conducted as a first step in order to identify patterns of behaviour related to concepts previously identified in the literature. This step is important to immerse the researchers in the reality of each case and understand their complexity, priorities, vision and opinions. A cross-case analysis (Eisenhardt, 1989) was then performed, comparing and grouping cases in order to identify similarities and differences. In the following section we report the main findings from the case studies.

5. Results and discussion

Although the field work generated many insights, for the purpose of the present article we focus on the most interesting results that align with our objective. To be transparent, we include quotations from respondents to illustrate their opinions. Our results are presented in the same sequence as in the interviews.

5.1. Company characteristics

As shown in Table 1, the cases included two businesses manufacturing green and natural cosmetic products, three companies producing conventional beauty treatments and solutions and one hybrid combining both options. The green manufacturers are micro-firms, while the conventional manufacturers are small size businesses. The hybrid company was the biggest. This company is also the most experienced, with more than 50 years in the business. The green and natural producers are more locally oriented in their sales, while the other types have more sales to Europe and also external markets in other continents. As discussed above, green and natural aspects might add value and

differentiation to products and produce a shift in the concept of quality, from achieving the minimum to a more sophisticated concept of quality in terms of sensation, value and respect (for society and the environment). This aspect can be observed in all the companies whatever their main product type.

5.2. Orientation and Strategy

Since orientation towards green and natural products and processes is a complex issue and implies a series of organisational and financial resources, strategy is a key aspect to consider. Given the current economic situation in the market, technological strategy deserves particular attention.

Companies were especially sensitive to this issue and the main products mark a visible difference between green and natural product manufacturers, on the one hand, and conventional manufacturers on the other. The most illustrative responses are shown below:

Natural cosmetic is more than a trend or fashion... it is a way of thinking and lifestyle (NATURAL1).

It is new trend and it has much potential for the future [...] in our vision, mass consumption is not feasible right now (NATURAL2).

It is a growing business sector due to the trend to be more aware and protective of the environment (CONVENTIONAL3).

From the quotations in Table 3, it can be seen that all companies agree that natural and green cosmetics are a challenging business. From the interviews we conclude that companies that are involved in such activities have a stronger belief in this direction and their trajectory in the green and natural cosmetic field. But they are not without problems. Even if they have a good product, markets, consumers, regulations and cultural aspects are beyond their control and may hamper the spread of their sales. Conventional cosmetic producers, on the other hand, give the impression of being able to enter this market, but still do not engage in these activities.

Case	Green/Natural orientation	Innovation orientation	Market Strategy	Reasons	Who decides the strategies
NATURAL1	“We think that natural cosmetic is more than a trend or fashion ... it is a way of thinking and lifestyle”.	“It is essential to be competitive in our sector”.	A, B, C	“All strategies are to expand the market.”	Mutual agreement with all departments
NATURAL2	“It is new trend and it has much potential for the future, but it is necessary to make improvements because organic actives are very expensive, that is to say, the processes of elaboration and extraction have a high cost and, in our vision, mass consumption is not feasible right now. Moreover, in this sector there are two important problems: 1) 100% organic packaging does not exist, 2) Evaluating the efficacy of the products in a natural way is impossible.”	“It is one of the key factors to achieve success.”	A, B, C, D, E	“All strategies are to expand the market and be more competitive.”	Mutual agreement with all departments
CONVENTIONAL1	“It is a big area of business and I think it has much future ... but we do not dedicate to it.”	“It is fundamental to be competitive in our sector together R&D and quality control.”	A, B, C	“The strategies depend on the type of manufactured product but the objective is the same: to achieve to be more competitive and expand the market.”	Management team
CONVENTIONAL2	“It is a new trend in the market”	“It is necessary to obtain new, improved and cheaper products and process”	A, B, C, D	“Because these strategies are the most conventional in our sector and we want to be more competitive.”	Management team
CONVENTIONAL3	“It is a growing business sector due to the trend to be more aware and protective of the environment.”	“Our aim is to improve and update active cosmetics by mechanisms of action in the body focusing also on the presentation of finished product.”	A, B, C, D, E	“Because one of our main objectives is to expand the market.”	Technical manager
HYBRID	“In recent decades, the care for the ecology is a fact. Also in the field of cosmetics, R&D and creating products with ingredients based on sustainability and the correct use of resources are very important. I think in the future this trend will be stronger.”	“The cosmetic product has to be effective and safe, and it even has to be able to surprise the user, satisfying and responding to sensory consumer demands. Innovation has to be conducted in order to obtain products based on the latest technology with a good scientific base.”	A, C, D	“To diversify, improve competitive advantage, attract new customers, etc., are essential in order to ensure the sustainability of the company in a competitive and dynamic environment”	General manager

A - Develop new products in order to open new markets; B - Imitate the leaders in innovation; C - Adopt developed technologies; D - Develop existing technics, progressively; E - Change the production method

Table 3.Orientation and strategy

Technological strategy and innovation represents a vital aspect for all companies interviewed, and they use words such as “essential”, “fundamental”, “key”, and “necessary” and no obvious differences can be observed between different types of cosmetic products. The most relevant quotations came from the hybrid manufacturer:

The cosmetic product has to be effective and safe, and it even has to be able to surprise the user, satisfying and responding to the consumer’s sensory demands. Innovation has to be conducted in order to obtain products based on the latest technology with a good scientific base (HYBRID).

In terms of market strategy, and possibly accentuated by the current economic situation, all interviewed companies coincide in using a variety of at least three market strategies for improving their competitive position and expand their markets. The main market focus is on product development and technology adoption, all companies affirming that they develop new products in order to open new markets and adopt already developed technologies which support strong implementation of product and process innovation. No differences in behaviour pattern or strategic orientation were perceived. The situation is different when we look at how strategy is developed. Green and natural cosmetic manufacturers state that market strategy is developed following a mutual agreement between all departments, while in the conventional cosmetic manufacturers the (general, technical) manager or the managerial team decide marketing strategy. This result might suggest that green and natural manufacturers are less hierarchical, and strategy is a shared responsibility between all departments. This might also be influenced by the size of the companies.

5.3. Quality and certifications

In the case of end-user products, in general, and cosmetic products, in particular, quality is a must. ISO certifications 9000 and 14000 are the most frequent certifications of product and process quality. At present, they are predominant in the cosmetic sector and consequently they do not represent a differentiating factor. In parallel, sector-specific norms appeared, such as ISO 22716:2007 which gives guidelines for the production, control, storage and shipment of cosmetic products. Complementary to ISO, Ecocert was the first certification body to develop standards for natural and organic cosmetics, created in 2003. It currently supports and guides more than 1,000 companies through their certification processes. Among the companies interviewed only one case bears the

Ecocert certification. It is interesting to observe that it is a hybrid company, producing both traditional and natural cosmetics.

In Table 4 we show the results of our interviews in terms of quality, certification, Ecocert and main barriers. As a piece of example, regarding quality one of the CEOs commented:

Quality in the natural cosmetic product is synonymous of quality in all stages of the value chain: starting with high quality raw materials having their origin in other continents -different from Europe-, produced by the means of ecological agriculture with a careful control against land overexploitation, continued with a cautious transformation, until the packaging using recycled and recyclable materials resulting in a product without perfumes, colorants and preservatives, non-tested on animals finally sold through special distribution points or channels such as eco shops, cooperatives or fair trade (NATURAL1).

Case	Certification and Awards	ECOCert	Relevant comment relative to ECOCert
NATURAL1	na	✗	We do not have this certification ... our main concern is to provide the latest innovations on the health of the skin ... we do not discard the possibility to obtain this certification someday.
NATURAL2	ISO9000, ISO14000, ILE award – Best European Employment and Training Scheme	✗	We do not have this certification because the company philosophy is to work well ... namely, it is focused on achieving very effective cosmetics and certification in order to guarantee its products.
CONVENTIONAL1	ISO 9001:2008, ISO 22716:2007	✗	
CONVENTIONAL2	na	✗	
CONVENTIONAL3	ISO 22716:2007	✗	
HYBRID	ISO9000, ISO14000, ISO 22716:2007	✓	We have this certificate because our firm wants to meet the demand of a sector in a specific market. However, one should be aware that the ECOCERT products are not a line with high profitability due to the still low demand.

n/a: not available

Table 4. Certifications and awards

We also detect the existence of certificates, awards and recognitions. It is interesting to observe that there is no clear pattern regarding ISO certification. In terms of Ecocert, green and cosmetic producers were questioned about perceived barriers. From more important to less the ranking of factors hampering Ecocert certification –and ultimately also valid for barriers in producing green and natural products- are: too much documentation, special space for manufacturing, not economically feasible, low or lower consumption of this type of products, unavailability of raw materials and/or distributors. The only company holding this certificate comments:

We have this certificate because our firm wants to meet the demand of a sector in a specific market. However, one should be aware that the ECOCERT products do not necessarily and immediately translate into high profitability due to the still low demand (of ecological products). (HYBRID).

Overall, and to conclude this section, we perceive a state of maturity of cosmetic producers regarding the traditional quality concept. This reality is ultimately sustained by holding ISO certificates. New forms of quality, in the sense and essence of green and natural cosmetics, are also present, but they are not certified. However, rather than discarded, they remain under consideration for future possibilities, highly depending on the proved effectiveness of these products, user awareness and other determinant macro issues.

5.4. Research and sustainability

The strong strategic orientation towards new product development and the adoption of existing technologies puts special emphasis in the topic of R&D, research and sustainability activities. Again, expressions such as “essential”, “fundamental”, “important” and “useful” indicate companies’ commitment to these activities. Moreover, we questioned companies about concrete research and sustainability actions. As shown in Table 4, R&D is mentioned in relation to innovation, in terms of new products and significant improvements of existing ones, by the majority of participants. Companies mention a series of areas of interests: natural and green cosmetic and hybrid manufacturers mentioning alternative methods to replace testing with animals, while conventional manufacturers refer to new techniques for product development and specific areas of interest in the field of cosmetics, such as micro-pigmentation or cosmetology. All companies are interested in sustainable activities, including non-

animal testing, while green and natural cosmetic manufacturers highlight sustainable packaging. In the words of one manager:

We want to be green and natural in all facets of our product from ingredients to packaging... in fact, packaging is very important... it contains relevant information about the product and it creates the first impulse in our customer (NATURAL1).

5.5. Innovation activities and outcomes

The continuously growing demand for cosmetic products, as well as a sensitive attitude towards sustainable products in general, moves manufacturers towards innovation. The cosmetic industry abounds in all types of innovation, including product, process, marketing and organisational (OECD, 2005). Companies were asked about all types of innovation in the items from the regular innovation survey, which deal with use/implementation, degree of novelty and impact.

The information in Table 5 shows that all companies have implemented new-to-the-firm innovations and market product innovations and marketing innovations in the three year period prior to our field work (2010-2012). Four of the six companies introduced process innovation and organisational innovation. There were many innovations in these companies and an ambition to develop better formulas and products, more efficient processes, improved and new packaging and work re-organisation.

Case	R&D	Research lines	Activities towards sustainability
NATURAL1	“R&D is essential to provide the latest innovations on the health of the skin.”	<ul style="list-style-type: none"> - New ingredients - Alternative methods of testing animals. 	<ul style="list-style-type: none"> - Non-animal tests. - Sustainable packaging.
NATURAL2	“R&D is fundamental for the firm”	<ul style="list-style-type: none"> - Cosmetogenomic: innovation techniques. - Cosmeceutics: genetically manipulated actives. - Pharmacodynamics: study of the biochemical and physiological effects of drugs on the body. - Alternative methods of testing animals. 	<ul style="list-style-type: none"> - Non-animal tests. - Sustainable packaging.
CONVENTIONAL1	“Depends on the product, but the most important is R&D in order to improve manufactured cosmetic products. “	<ul style="list-style-type: none"> - Micro-pigmentation: innovation technic. 	<ul style="list-style-type: none"> - Non-animal tests. - Pollution control technologies. - Waste management technologies. - Recycling technologies. - Reduction of CO2 emissions.
CONVENTIONAL2	“Acquisition of equipment to improve methods of obtaining the purest active ingredients.”	<ul style="list-style-type: none"> - New obtaining technics in the process. 	<ul style="list-style-type: none"> - Non-animal tests. - Reduction of CO2 emissions.
CONVENTIONAL3	“R&D useful for the formulation of new products with innovative actives.”	<ul style="list-style-type: none"> - Cosmetology: is the study and application of beauty treatment. 	<ul style="list-style-type: none"> - Non-animal tests. - Reducing solvent consumption and waste. - Pollution control technologies. - Reduction of CO2 emissions. - Recycling technologies.
HYBRID	R&D in order to achieve new products according to demand market.	<ul style="list-style-type: none"> - Anti-aging products - Alternative methods of testing animals 	<ul style="list-style-type: none"> - Certification of compliance with Good Manufacturing Practices Cosmetic. - Reduction of CO2 emissions. - Non-animal tests. - Sustainable packaging.

Table 5. Research and sustainable activitie

6. Conclusions

The aim of the present article is to present an analysis of innovation and sustainability as two important contributors to success in the cosmetic industry, depending on whether the main product line of a company is green and/or natural, conventional or hybrid. In all industries, and this industry in particular, there is a shift in the concept of quality from complying with the minimum or the norm, to a more sophisticated concept of quality that includes responsible users and exploitation of raw materials, recycled and environmentally-friendly packaging, new products in response to customers' concern for their health and beauty, improved and more efficient processes and, not least important, with regard for employee well-being.

By analysing a series of cases, we identify general characteristics and innovative behaviour of green, natural, conventional and hybrid cosmetics manufacturers. Overall we find a high level of commitment to innovation in terms of strategy, and many types of innovation used to improve market position and improve competitive advantage. Green and natural cosmetic manufacturers mainly differ from other companies in terms of their size (they are smaller), their markets (more local), packaging (using more glass and paper as materials in primary packaging), have strategies agreed among all departments, and some common research interest and sustainable activities. All these aspects are fully in line with the trends described in the initial part of the present article. Integrating strategy, R&D and innovation with sustainable aspects in a crucial sector, such as the chemical industry in general and cosmetics in particular, contributes an understanding of how companies manage their shift towards the greening of their products, which remains a future trend for most manufacturers.

Finally, this study has several limitations. The main limitation is the number of cases, especially in the green and natural cosmetic producer categories. This further translates into some difficulties in generalising the results. Among the interviewed companies there were no big corporations, and all the companies studied fall into the SME category.

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