

Original Paper

The Greatest Success in the Comex Company: Matching Color through Computer Technology Manuel Ignacio

Campos Gonzale¹ & Candido Gonzalez Perez^{2*}

¹ Postgraduate Student in Business Administration at Los Altos University Center, Mexico

² Research professor at the Los Altos University of the University Center of Guadalajara, member of the National System of Researchers Level I, Mexico

* Candido Gonzalez Perez, Research professor at the Los Altos University of the University Center of Guadalajara, member of the National System of Researchers Level I, Mexico

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Abstract

The Comex company went through a large number of changes in administrative matters, in sales, in labor processes and in the implementation of technological innovations; It started with Mexican capital and sold its entire operation to foreign companies. The main objective of this document is to explain how one of its main problems was solved in the transformation of its products, for which we describe the implementation of a technological development consisting of the matching of colors by means of a computerized equipment. The method used for the exhibition is the qualitative one and in particular it is based on testimonies of life of the dealers. The results can be analyzed from the perspective of business, administrative or human resources; For any of them, the success that this internal change in painting production produced is remarkable.

Keywords

technological innovation, company, sales

1. Introduction

At the beginning of the 1950s, a businessman from Syria, José Achar Tussie, was the owner of a hardware store in the capital of the republic. On one occasion, he was forced to collect a debt from a client who became insolvent. The manufacture of paint. Without having proposed it, he became an industrial producer of that branch, the first company was called Comercial Mexicana de Pinturas and had a mill that had been used in the Second World War and a mixer; It was installed in a small garage of a house located in the Inderependencia neighborhood of Mexico City. It made two types of products:

a water-based one that was dubbed Supertone; and another of matte oil, the Flat Comex. In a family reunion the possible names of the new company were discussed, they could not conceive both and a short one was chosen: Comex that brought together Comercial Mexicana de Pinturas, which was long and difficult to create in capital society.

Inauguration of the factory in Mexico City (1960s).



Table 1. Vazquez Mota, Josefina, 1990, The Comex Pioneers: Chains of Loyalty and Affection

At first, sales focused on providing supplies to the hardware store, they had 12 employees in production, a chemical engineer, an assistant, a secretary and an administrative assistant. No further proposal was required from its owner, a career began for innovation that incorporated the investigation of new products that could be carried out in the same space that it already had, but that covered more areas of commercialization. They came up with the sale of a little studied product: satin vinyl paint, for this, hired several German and other Mexican engineers. Soon he advanced in the investigations and this type of merchandise became the company's insignia. The growth was unusual for what they considered necessary a new expansion and not only to serve the hardware industry but to venture into the decorative line with what their new clients were those who worked not only metals but also the mafera. Circumstances forced them to expand the work space, impossible to continue in the garage of a house and they moved to a space located in San Antonio Azcapotzalco in an area of half a block (4,500 square meters).

Exterior view of the plant in San Antonio Azcapotzalco, Mexico.



Figure 2. Vazquez Mota, Josefina, 1990, Los Pioneros Comex: Chains of Loyalty and Affection

Less than a decade after starting its work, the paint company already had well-deserved recognition from a full-fledged factory. Unfortunately, as it happens, for lack of taking forecasts an accident took place, the industrial line where the varnishes were manufactured burned down. The problem had great consequences to such a degree that it was necessary to stop production. Having overcome the problem, growth was more elevated to such a degree that Mr. Achar Tussie's company ranked in the first places with respect to the competition, which they organized to boycott it when they saw that buyers preferred Comex. Eight companies in the Comex market branch joined together and were putting pressure on the hardware industry to withdraw their products from the market. the boycott began to give them good results. Hardware stores lined up to return products to Comex and demand refunds. In addition to the fire, this other premeditated action in that case forced the company to change course. The objective of the companies that carried out the boycott was to go as far as the bankruptcy of the company because with the increase in inventory due to the return of supplies, it became impossible to maintain the wages of their workers and the increase in the lack of liquidity became unbearable.

On this occasion the Comex company found the light at the end of the tunnel with a bold measure: if their customers no longer bought their products, they began to open direct stores for their customers. They would no longer supply hardware stores, now they would have their own points of sale. With this, the warehouses that were full of paint, were moving to the branches, no employees were laid off, some relocated and everything resulted in the sale points being exclusively for Comex paints. Efforts were now aimed at finding points of sale in key places and from having been suppliers for the hardware companies, they became their competition, at least as regards the paints. The first store that sold exclusive Comex paintings in the year 1961 was located at 316 Fay Servando Teresa de Mier Street in Mexico City. One characteristic to highlight was the fact that the first counter employees were the old

factory workers. A short time later, in 1965 a new plant was built in Tepexpan with a surface area of 70,000 square meters (remember that the first was installed in a half-block lot, the new one occupied 70); There they began to manufacture decorative and automotive products, their well-known names were in the vinyl section: Vinimex, Delco, Plasticolor, Real Flex, Comsa, Magicolor, while in enamels: Rekor enamel, Esmate 100, Velmar, Flat Comez, in woods: Sealers and Lacquers; and in the automotive line: Autolac and Suplalux.

In the seventies the company already had 800 retail stores in the republic. At this time there were no fires or boycotts, but the weak side was constituted by the scarcity of oil products, caused by the very high price changes that forced the Arab crisis with its fuel embargo. On this occasion the company was forced to drastically reduce production and focused on the area of decorative products and especially on the marketing policy with the creation of a training area called CETEC that provided advice to customers and professionalization of the consessionaries. After Cetec, the Kroma distributor was founded to continue developing the marketing activities.

During the decade of the eighties, the country entered into frank economic crises that certainly had a lot of influence on Comex's development, however, it maintained a good growth rate and it expanded to Central America, for which the Aga flat was founded. In 1990, which sought to standardize the format of stores (this aspect had not been contemplated before, despite having established itself as a strong chain of stores selling direct to the consumer). At the end of the millennium, all the points were already approved both in the presentation of the products and in the facilities to give it its own personality.

Marcos Achar Levy, the son of Mr. Alfredo Achar, took over the post at the management of the company, which by 2005 already had 3,700 points of sale for which the Exito brand had been purchased, which belonged to the Brochas y Accesorios. The Comex negotiations reached our 2 northern neighbors and took shape by operating 314 stores (of which 234 were located in the United States and the other 80 in Canada). Also, Comex sold paints and coatings in approximately 1500 spaces in Canada. Being placed as the 15th company in the world (Expansion, 2013). Another important change was when Hendrik Bergtron was appointed president of Comex and vice president of Recubrimientos Arquitectonicos para Anmerica Latina when Mr. Marcos Achar retired from the general administration.

2. Method

During the sixties Mr. Rodrigo Campos Reyeros joined the company as an accounting assistant and through many years of work he rose to the job ladder. Comex started as a company with a very discreet presence and over the years its development was rapid, Don Rodrigo similarly evolved to become its national credit and collection manager and today one of the most important dealers in Mexico. Originated in the negotiation plans and as it will be explained in detail below, Don Fernando became a concessionaire when acquiring a point of sale; Thanks to the closeness of Don Rodrigo with the Achar family, his life, all, revolved around the company and the business, so over time they incorporated his

father, Don Manuel Campos Marquez, who sold a taxi that he had bought for him. your kids and a grocery store to invest in the merchandise. “The cheap” of Itzapalapa turns 50 in 2021 and its two brothers: Lourdes and Ignacio, who in turn, following the example of their brothers, went one by one and built their own points of sale. Manuel Ignacio, Ignacio’s son, represents a third generation rocket and is currently a Comex dealer in the city of Tepatitlan, in western Mexico. This work is based on the life testimony of both Manuel Ignacio and his family members who provided first-hand information since the establishment of the business in the 1960s. This family has spread to branches that are located in Baja California Sur, Sonora, Jalisco (as is the case of Manuel Ignacio), Xalapa, Mexico City, Monterrey, Chiapas and the neighboring countries of Guatemala and Nicaragua.

Since its inception, economic science has taken pestered concepts from other areas of knowledge, affirming, for example, that there are endogenous and exogenous innovations. These categories come from the health sciences and mean that there are endogenous diseases, which are those generated within the human body; and exogenous diseases, which are those received from abroad (example: viral diseases). In economics it is said that there are endogenous and exogenous innovations in the same sense as the health sciences. The first economist to catalog technological advances in companies by their origin was Schumpeter (Jimenez Barrera, 2018; pp. 173-174). He affirmed that the main changes in technology were implemented within the production centers (that is, they were endogenous in nature); Two followers of the Schumpeterian tradition were Kaldor and Mirrelees (Alvarado Lopez, 2017, p. 15). Another author, Solow, on whom we base ourselves on this exhibition, says that the most important technological changes come from abroad (they are exogenous). He states that the development of a country is based on technological evolution, which goes through five stages, however it is very important to point out that in the case of this writing, we will refer exclusively to the implementation of a productive innovation within a company and the changes it originated. This notion of the stages generated criticism, of which the main one has to do with the conception of ascending linearity. The Comex company has experienced a considerable number of innovations, some generated by employees and others that have been acquired through contracts with external agents. A palpable feature of the company has been betting on research, which is where you experiment with technology. It has been innovated in several areas, however, the objective of this writing is to describe the avamce carried out with the color equalization in the paintings, which had an exogenous character. This advance improved the production and sale of merchandise, it was incorporated in the middle of the life of the company (it was founded sixty years ago and the incorporation of Color Life dates from the beginning of the nineties). In summary, the change was reflected in three typical ways (Jimeno Serrano, 2019, p. 97): increased productivity of capital and labor; There were displacement of employees because the color matching stopped being manual; and jobs were created in different spaces for the production of the new machines. On this we will base ourselves with respect to the theoretical contributions on the matter.

A long-standing discussion of economic theory writes that some authors consider Technology as a fourth factor different from the three classics enunciated by classical economics since its appearance, namely:

Land, Labor and Capital. In this article, the old version is taken into account in the sense that Technology is part of Capital because it acquires a specific form in machines. There are those who have also considered the knowledge of the workers classified as part of the “fourth factor”, neither is it this way in this writing because it is considered that labor characteristics, no matter how developed, will always be Work. Specifically, as far as we are concerned, we consider technological innovations as an increase in the Capital factor and although it requires increasingly qualified work, we conceive them separately. Finally, Marxist bullfighting has devoted large spaces to the characterization of Technology, however its statements correspond to Macroeconomics, which is not the subject of analysis in this article. The Marxist current, affirms and with great scientific support, that through technological innovations the time of work socially necessary for the production of goods decreases and that this causes a global tendency to decrease the rate of profit, however the interest This writing is the specific description of an economic phenomenon within the private company, not the economic evolution of a country. For this reason, the statements of Marxist economics are dismissed.

3. Result

3.1 Franchise Network

From the beginning of the seventies and due to the boycott organized by the companies of understanding, the owners have given shape to the idea of creating a franchise network. This consisted of changing the status from employees to partners, since that time and to date it has been one of the greatest successes of subsisting and evolving the Comex company. There are currently 5,000 stores (1,300 more than Marcos Achar's 3,700) that have cultivated the loyalty and solidarity of the company because it is very different to work as a wage earner in a business to share in the profits and be an intrinsic part of it. For the cohesion and development of the company as a whole, there are values that are respected, they consist of maintaining the high quality of the goods, respecting the payment terms of the products, keeping the price to the public stable (you can not step on a foot with the other), and respect the areas of influence of each of the more than 600 franchises. They have been very scrupulous in the planning area to extend an immense network of salespeople-concessionaires in 5,000 stores spread throughout the Mexican Republic. The current owners express their appreciation and loyalty to the initiators and although they had no business experience and most of them had no professional training, they have grown hand in hand since the inception of the factory. The descendants of the original owners (there are now three generations) have grown in the aforementioned fields: in experience and university training. There are children of entrepreneurs or who have already taken the reins of their participation in the company themselves, who have studied at Harvard, Yale and the best universities in Mexico.

At first the new franchises were afraid to migrate to other places. Of course, it was important to spread the branches because one of the main objectives, as already said, was not to compete with each other, so it was necessary to expand to cover most of the country's regions. The new owners adapted to the

circumstances and that which was a problem at the beginning has disappeared. In many cases, such as that of Manuel Campos, co-author of this article, the only reason to live in Tepatitlan, Jalisco is Comex, for having become a concessionaire.

Comex has undergone qualitative changes since its founding to date and the vast majority have benefited it. In 2014 they gave a new turn of the wheel that at first generated many doubts among the new members of the company, but little by little they have been blurred, the company was sold in 2014 to the North American firm PPG Industries, an institution successful that has long been known for leading the market. The central idea to dispel the doubts was that the idea of supporting and using the independent concessionaires has been maintained. It is worth mentioning that the profit has always been both-way, because the owners of most of the shares win because they have guaranteed many points of sale, and the minority owners retain the support of the production of quality merchandise and supply them with efficiently your warehouses.

3.2 Technological Development

The second of the two great sources of Comex's success is having invested in technological advances related to the production of paints. The first, whether it is pointed out, is having made its employees co-owners. The main effort directed towards innovations was the creation of the Polymer Research Center (CIP), which consisted of research on coatings. the international market was not limited to the Mexican sphere, and it can be considered *endogenous* innovation. Subsequently, a visual evaluation laboratory (called LEV for its acronym) was created and it was considered the most important in its field in all Latin America, its area of influence consisted of measuring the lighting on different surfaces and under different visual angles, the results from this laboratory they were always well received by the buyers, which was ultimately their main object; it also consisted of *endogenous* technological change because it was produced by company workers. Subsequently, he ventured into the professionalization of the distribution network and created the Integral Training Center (CFI), its main function was to offer specific consultancies and workshops to end customers and store staff, with special interest in training professionals at the industrial level. After the establishment of this last center and after having entered the Latin American markets, the North American market was attended.

Synthetically, it can be said that, with the actions described above, Comex managed to become the supplier of approximately 45% of the national market in its last 60 years of history. It is stated that in 2012 it managed to establish itself as the number one company in its field in Mexico (Celis, 2013). The time of the early sixties seems very distant when it began its operations in the garage of a house and with a social capital of \$ 100,000 pesos. In 1998 Alfredo Achar Tussie became the CEO and President of the Board of Directors, it was when he spread to Central America. At the proposal of Marcos Achar Levy son of Don Alfredo, the company was offered for sale to the international and well-known Sherwin-Williams company, the attempt was about to materialize had it not been for the intervention of the Federal Commission on Economic Competition (COFECE) that it dismissed the transaction on two occasions; the amount of the transaction had been quoted at \$ 2,340 million dollars. In 2014, the sales

attempts were successful and another North American company, PPG Industries, acquired it for \$ 2,300 million dollars. To give an idea of the success of the sale, in November 2017 they had closed their sales for an amount of \$ 13,900 million pesos of which 70% were accounted for by their network of national franchises. According to Forbes magazine in its electronic edition of April 15, 2020 Marcos Achar and his family, occupy the tenth place of the Mexican fortunes after the sale of the company to PPG Industries. The feeling of the dealers even though it is no longer a national company, has been maintained by the respect and affection that the brand has and they have fully identified with the international firm, even though in Mexico it is still called Comex (Staff, 2016).

The main technological advance, the main reason for this writing, was the purchase of equipment called "Tintometricos". Inside the Comex, the "Collor Center" area was created, the origin of which dates back to an alliance with an Italian equipment manufacturer for these purposes, called Corob. That company specialized in color matching through the use of computers. The purchase of equipment was unique in the national market, no other had ventured into this area. The main improvement observed by the concessionaires in all the points of sale was the repeatability of colors and the notable decrease in product, inventories were markedly reduced and this led to a very great distinction with respect to the competition. They reduced costs because less labor was needed, less warehouse space and above all an improvement in quality because fewer base colors were used. Inside there was an extra benefit because it was possible to standardize the service to customers, in the shortest time possible and at the same prices in any of the points of sale regardless of the region of the republic.

Comex stores, year 1960



Figure 3. Vazquez Mota, Josefina, 1990, Los Pineros Comex: Chains of Loyalty and Affection

Comex Stores, Year 1990.



Figure 4. Vazquez Mota, Josefina, 1990, Los Pinos Comex: Chains of Loyalty and Affection

Comex Stores, year 2000.



Figure 5. Vazquez Mota, Josefina, 1990, Los Pinos Comex: Chains of Loyalty and Affection

Comex, Stores, year 2020.



Figure 6. Vazquez Mota, Josefina, 1990, Los Pinos Comex: Chains of Loyalty and Affection

Color Center

In 1993, the Achar family made a trip to Germany where they met with an Italian who was dedicated to the manufacture of machines that match colors. It was a great discovery because they signed an agreement through which the production exclusivity of these equipment for Mexico was granted. They built machines that were developed to such a degree that they make it possible to repeat the tone of any color from a sample card; For this they use a team that is fed by colorants (basic colors and accents) and a base of charges (recina, water and adhesives). Color Center currently gives technical support to equipment that is used in 5,000 points of sale and is avant-garde in the paint market. The equipment itself consists of bulky hardware and software and a mixing equipment priced at around \$ 10,000 per package. Its process consists in dosing the exact amount of colors to a base and it is obtained from the formula loaded in the system, they are beaten by means of a special machine achieving the expected color. A great advantage is that volumes from 4 liters can be marketed and they can be at the customer's choice although in vinyl paint or enamels, products for fashion and the new technology allows to match epoxy paint, being the universal colorants.

Previously, the plant produced 700 different colors, they were packaged and stored at the points of sale. With the years of existence the company had hired an employee who had the special task of matching colors based on instinct, always working through trial and error, the only quality with which they could be supported were the experience that the practice was giving them everyday. They were asked to have a "good eye and to be cordial in serving customers." That position was one of the best paid and according to veterans in the business "it became a power reserve within organizations", businesses became increasingly dependent on their success from exclusively on this type of staff. Much was done through training courses to prepare for the generational replacement, but owners and employees knew that the most precious link was the one they represented in production. According to the concessionaires "inventories, shrinkage, ant theft and expiration were a big problem". Even when the new equipment was installed, rejection was detected first, then when they learned that its application was going to be mandatory, the employees showed concern. As is to be expected in this type of

phenomenon, the greatest barrier is the opposition inertia of those who see their participation compromised. As an anecdote, before the appearance of Color Center, there were more expensive colors than others, and from their use the prices were also homogenized. The launch was in 1994 and from that date, although gradually, the employees dedicated to color matching were learning to do it with the teams because the practice of doing it by eye disappeared and the competition has not abandoned that scheme. So Comex has that comparative advantage that keeps them one step ahead. Another qualitative advantage is that the names of the colors that reflect the national identity have been registered and, in addition, it was Mexican engineers who proposed them, each tone was given identity with a name and a code, for example: Chiapas F3-11 (Oxide). The system that now exists has been developed so much, mobile applications the size of a lighter by means of which the exact shade of the color to be matched can be known.

With the introduction of this type of machine, the whole process changed and the storage decreased exponentially because now with only 12 base colors, any color can be produced. Not only the handling of the producer was facilitated by reducing the storage of paints, but also the use of labor was reduced, the problem of constantly supervising the expiration of paints that had no sale for long periods was eliminated, the handling was facilitated from warehouses and the waiting time for some color that would not be in stock disappeared virtually. Training was significantly reduced and spare parts for the equipment are readily available because the machines that are supplied to the 5,000 points of sale have been standardized. It's kind of a Henry Ford Model T.

4. Discussion

With the technological innovation of color matching implemented by the company, one of its main production problems was solved and a new business model was created. Activities that were previously carried out were stopped and new actions had to be implemented. The workers who had as their only *modus operandi* to match colors, were no longer useful and it was necessary to relocate them inside the company to carry out different jobs; creating hardware and software to generate equal shades of color required employing qualified personnel outside the company because that work has required highly qualified personnel in areas other than paint production. This simple fact served to make the company stand out qualitatively from the rest of the competition, which continued with artisanal equalization. Using the computerized system it is possible to offer for sale more than 6,000 colors.

With the production of dyes online, the exercise of having a huge storage of base colors and the existence of large tubs for their transformation was abandoned. A long-standing problem with which this type of company survives was eliminated in the open: the expiration of paints that are kept in the cellar for a long time. Another solution that came hand in hand with the color matching equipment was the sale of the product in small quantities; Before that innovation, it was impossible to sell a special type of color in a 4-liter container because "the required work" could not be paid in small volumes; As a consequence of the new policy, color price differences disappeared (competition continues to sell

different colors at different prices). Minimal quantities are now required and are mixed through computerized processes. One characteristic to be highlighted is that before the introduction to the electronic system, the activity was intended to be carried out only by male personnel, now with the facilities offered by the innovation, the activities have been shared in proportional male-female parts.

The Comex company throughout its life trajectory has incurred in important innovations, among which two should be highlighted: an administrative one that consisted of converting the workers into dealers, and having experienced a technological change from abroad as it was color matching. However, the latter became the main driver of his sales success.

The change brought about by the innovation by computer equalization for the company created an abyss against the competition, 26 years later the gap has been reduced with similar projects. Today Comex stopped having in the color matching the center of its commercial project, today colors are the objective that is commercialized in stores, it was then given to an intangible asset, weight, shape, value and recognition by the customers. People take matched color for granted, now they want the color that most closely matches their lifestyle.

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