

Preparation of the Market Study to Determine the Feasibility of Launching a New Product in a Company in the Food Sector

Germán Rossetti. Mercedes Martinet

Faculty of Chemical Engineering. National University of Litoral. Santa Fe. Argentina

Corresponding Author: german.rossetti1965@gmailcom

Abstract

The development of new products is an essential activity for the survival and competitiveness of organizations, especially for small and medium-sized companies, since it is a process for the generation of new products or modification of existing ones. In this paper, a market study is carried out to determine the feasibility of launching a new food product by a regional company. The proposed objectives are the following: (i) Ratify the existence of an unsatisfied need in the market, or the possibility of providing a better product or service than the one currently offered, (ii) Determine the quantity of the product that the community would be willing to buy at a certain Price, (iii) Know what marketing channels are used to place the product to consumers, and (iv) Define the commercial strategy most appropriate to the reality of the food company. The research basically focuses on the analysis of the following pillars: demand, supply, prices and marketing. In conclusion, it can be said that: (i) The demand forecast for the product indicates that consumption will increase, (ii) The supply analysis reveals the existence of unsatisfied demand, (iii) The company has a structure and reputation that it facilitates the introduction of the product, and (iii) the supply of raw material is not a problem for the development of production, since it depends on the same company.

Keywords: Market Study. Feasibility. Food Product. Enterprise

Date of Submission: 20-03-2023

Date of acceptance: 04-04-2023

I. INTRODUCTION

The development of new products is an essential activity for the survival and competitiveness of organizations, especially for small and medium-sized enterprises (SMEs), since it is a process aimed at generating new products or modifying existing ones [5, 7, 12]. Therefore, companies in the food sector analyze their product portfolio continuously, in order to be at the forefront of new trends and innovations that arise due to consumer expectations and/or demands. In this way, they manage to consolidate their brands and be recognized in the market niche that sells their products [2, 3, 11].

Taking into account the aforementioned, a renowned company dedicated to poultry production, located in Region 3 - Node Santa Fe, Argentina, intends to know the feasibility of investing in a production line for the launch of a new product in the market, said product is the "Chicken Milanese". To determine the viability of the investment Project, a series of studies must be carried out, which are listed below: (i) market study, (ii) technical study, (iii) organization, legal and environmental study, and finally (iv) economic-financial evaluation study [13, 14].

Although the product to be launched is known in the market, as it is the "Chicken Milanese", for the company it is an innovation in its product portfolio, as well as a productive challenge, since it must set up a new production line and establish quality controls, procedure manuals, etc.

In the present work, the market study is carried out to determine the feasibility of said company, whose brand is installed in the market, for the launch of its new food product. To carry out this study, information is collected from various secondary sources, such as: reports, monographs, articles from specialized magazines, newspapers and data provided by the company itself.

The market is understood as the area where the forces of supply and demand converge to carry out transactions of goods and services at determined prices [1]. The objectives of the market study are: (i) Confirm the existence of an unsatisfied need in the market, or the possibility of providing a better product or service than the one currently offered, (ii) Determine the quantity of the product that the community would be willing to acquire at a certain Price, (iii) Know what are the means used to get said product to consumers, and (iv) Define the commercial strategy most appropriate to the reality of the food company. The research is based on the 4 focuses of analysis that make up this study: demand, supply, price and marketing analysis. In conclusion, it can

be said that: (i) The forecast of the demand for the product gives the guideline that consumption will increase, (ii) The analysis of the offer reveals the existence of unsatisfied demand, (iii) The company has a structure and reputation that facilitate the introduction of the product, and (iii) The supply of raw material is not a problem for the development of production since it depends on the company itself [10, 11].

II. MARKET STUDY

The company under study, has the entire production chain, that is, from the breeding and fattening of chickens, to the distribution of its products, which are basically whole and divided chickens. It also has a balanced feed manufacturing plant. It should be noted that the firm, in order to carry out the market study of the new product - Chicken Milanese - uses both secondary information, which is extracted from external sources such as statistics and government projections, mainly from the Poultry Bulletin issued by the Ministry of Agriculture, Livestock and Fisheries of Argentina (2009 - 2021) [8], as well as information obtained through the web pages of the competition in this area. In this way, it manages to develop each of the analyzes that make up the market study: (i) Demand analysis, (ii) Supply analysis, (iii) Prices and (iv) Marketing, which are detailed below.

III. DEMAND ANALYSIS

The term demand refers to the quantity of goods and/or services that the market requires to satisfy a specific need, at a certain price [6]. This study is carried out in order to define the consumption of the product in the geographical area covered by this work, considering the data on the amounts of similar products consumed both in the past and in the present and the factors that have a greater influence on the quantity demanded, in order to make a forecast of future demand.

III.1 ZONE OF INFLUENCE

The company sells its products both in Argentina and abroad. It intends to introduce the new product in the Argentine provinces where it already sells other products of its Brand, except for the province of Buenos Aires, at least in the first years of the Project, due to its large population. The provinces that make up the area of influence are: Chaco, Córdoba, Entre Ríos, Mendoza, Salta, San Juan, San Luis, Santa Fe, Santiago del Estero and Tucumán. These provinces concentrate 38.3% of the national population, that is, approximately 15.4 million inhabitants [4].

III.2 INFORMATION COLLECTION

There are two types of information, the primary one, which is information obtained by coming into direct contact with consumers or users of the product or service, collecting information through surveys, observation, experimentation, etc. Secondary information is all the information available on the subject, organized and elaborated, product of analysis, extraction or reorganization of original primary documents (Ynoub. 2014). The firm has carried out the project of a new product, which, although it is new for the company, is a consolidated and accepted product in the market, for this reason there is a large amount of secondary information, which is extracted from sources of external information such as statistics and government projections, mainly from the Poultry Bulletin issued by the Ministry of Agriculture, Livestock and Fisheries of Argentina (2009 - 2021) [8].

Table 1: Production, Export and Import of Poultry Meat Source: Own elaboration.

YEAR	PRODUCTION (KG)	EXPORT (KG)	IMPORT (KG)
2012	1,502,719,000	232,815,000	10,824,000
2013	1,565,157,000	283,904,000	18,413,000
2014	1,780,000,000	296,103,000	23,290,000
2015	1,900,000,000	336,610,000	15,753,000
2016	1,925,000,000	366,024,000	13,033,000
2017	1,950,000,000	322,879,000	11,403,000
2018	1,980,000,000	241,984,000	10,122,000
2019	2,040,000,000	186,391,000	7,946,000
2020	2,105,000,000	207,124,000	5,767,000
2021	2,069,000,000	193,318,000	7,150,000

For the development of this work, the production, exports and imports of poultry meat from Argentina are analyzed, from the year 2012 to 2021. These data can be seen in Table 1, obtaining the following conclusions:

- In poultry meat production there is an upward trend in the first three years, with a peak of 14% increase in 2014.

- In exports there is an upward trend from 2012 to 2016, where the maximum export level is presented, reaching 366,024,000 kg. In the year 2020 there is a rise in exports, to decrease again the following year.
- In imports there is a growing trend from 2012 to 2014, inverting from 2015 and lowering import levels until 2020, when there is a minimum of 5,767,000 kg imported. In 2021 a noticeable increase is observed.

III.3 FORECAST OF DEMAND

In order to estimate the amount of products based on chicken meat that the company could produce, during the evaluation horizon of the Project, the forecast of the demand for poultry products in the country is made, to later determine what percentage of it corresponds to consumption of the new product for the company, that is to say "Chicken Milanese".

To obtain an approximation of the national demand for the periods for which information is available, the Apparent National Consumption (ANC) is calculated, which is obtained as: $ANC = Production - Export + Import$. The ANC is obtained from the data reported in Table 1. Then, to calculate the annual per capita consumption, the number of inhabitants is taken into account, therefore the formula is $ANC/inhabitants$. The corresponding information is shown in Table 2.

Table 2: Summary of Data and Number of Inhabitants Source: Own elaboration

YEAR	ANC (KG)	INHABITANTS	CONSUMPTION PER CAPITA (KG)
2012	1,280,728,000	38,345,150	33.4
2013	1,299,666,000	37,780,988	34.4
2014	1,507,187,000	38,645,821	39.0
2015	1,579,143,000	39,282,164	40.2
2016	1,572,009,000	39,697,197	39.6
2017	1,638,524,000	40,557,525	40.4
2018	1,748,138,000	40,940,000	42.7
2019	1,861,555,000	43,392,890	42.9
2020	1,903,643,000	43,761,908	43.5
2021	1,882,832,000	44,511,395	42.3

It can be observed that the annual per capita consumption of poultry products has grown steadily since 2012, presenting only two years of decline (2016 and 2021). It should be noted that an increase of the order of 1% per year in the number of inhabitants has been considered for the calculation of per capita consumption, respecting the demographic growth trend in Argentina.

It is worth mentioning that the consumption of poultry meat has increased due to the lower price it presents compared to beef and the great promotion it has done from the poultry sector. The affordable prices are due to investment and improvements in the four pillars on which the industry has been sustained since its birth: genetics, nutrition, bird management and health [8].

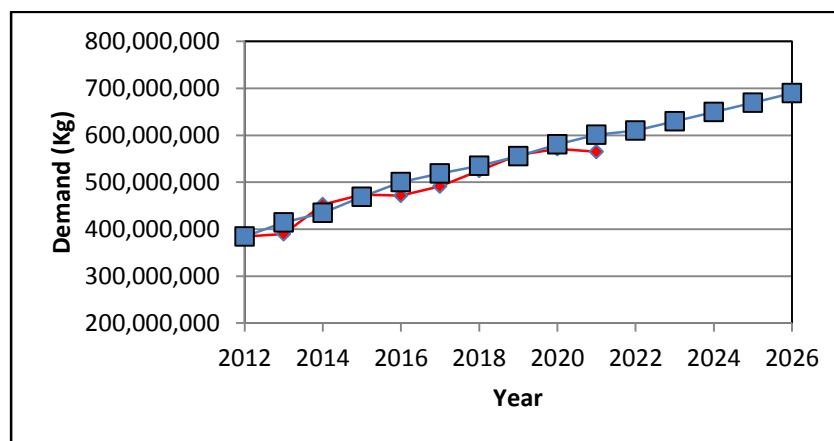


Figure 1: Comparison between Demand and its Forecast.

The red line is the Demand and the blue line is the Demand Forecast. Source: Own elaboration

Once the demand has been calculated, it is analyzed to see if it has a growing/decreasing trend, seasonality, dispersion or randomness. Based on knowledge of the characteristics of the series to be forecast, the most appropriate method is selected according to its behavior over time [1]. The representation of the demand data, as can be seen in Figure 1, shows that they are correlated with each other, and present a clear linearity. No seasonal pattern is detected. For series that present a linear trend and a constant seasonal pattern, it is

appropriate to apply the double exponential smoothing method to make a forecast [9]. Figure 1 shows the demand curve and its forecast in the time horizon of the project.

Next, it is necessary to know what percentage of chicken meat consumption is in the form of "Chicken Milanese", since it is the innovative product that the company will produce.

By analyzing various articles from well-known national and regional newspapers, where surveys of chicken vendors, supermarkets and customers in general are carried out, it is concluded that products made from chicken meat are the ones with the highest sales levels (around of 2/3 of the total consumption), topping the list the product "Chicken Milanese". Consumers, basically, do not buy the whole chicken, even when it is left practically at cost price in the góndolas, since customers are looking for something delicious, quick and easy to prepare. It is estimated, according to data provided by the company under study, that approximately 30% of chicken consumption is made in product format - Chicken Milanese.

The number of inhabitants in the area of influence of the project must be taken into account, since not all the country's demand can be considered a potential demand for this Project. Both the annual demand at the country level and in the area of influence, as well as the forecast, are detailed in Table 3.

Table 3: Annual Demand of kg of the Product Source: Own elaboration

YEAR	PRODUCT DEMAND (KG)		PRODUCT DEMAND FORECAST (KG)	
	COUNTRY	INFLUENCE ZONE	COUNTRY	INFLUENCE ZONE
2012	384,218,400	147,155,647	384,218,400	147,155,547
2013	389,899,800	149,331,623	414,059,900	158,584,942
2014	452,156,000	173,175,786	434,478,961	166,405,442
2015	473,742,900	181,443,531	469,040,136	179,642,372
2016	471,602,700	180,623,834	500,132,248	191,550,651
2017	491,557,200	188,266,408	518,687,006	198,657,123
2018	524,441,400	200,861,056	535,220,005	204,989,262
2019	558,466,500	213,892,670	555,688,289	212,828,615
2020	571,092,900	218,728,581	580,473,657	222,321,411
2021	564,849,600	216,337,397	600,767,067	230,093,787
2022			609,866,892	233,579,019
2023			629,741,956	241,191,169
2024			649,617,021	248,803,319
2025			669,492,086	256,415,469
2026			689,367,151	264,027,619

IV. ANALYSIS OF THE OFFER

The term supply refers to the quantity of goods and services that the suppliers are willing to offer for sale in the market at a given Price. The supply study is carried out to find out the amount of product that will be available in the market during the study period of the project, and based on this, ratify the existence of an unsatisfied demand that justifies starting the project [13].

IV.1 COLLECTION OF INFORMATION

For the analysis of the offer, data provided by the Argentine Chamber of Poultry Producers called "CAPIA" (<http://www.capiacomar>) is used, from which the number of kilograms of chicken meat slaughtered by each company authorized during the years 2019, 2020 and 2021. To determine if the bidding companies represent a competition for this project, the region where each one carries out its productive activities and what it produces is investigated. If the company produces the product and is located within the area of influence of this project or in its vicinity, it is considered a competitor in the market.

Therefore, a record was made, which for confidentiality reasons is not included in this work, which details the total number of kilograms of chicken produced during the years 2019, 2020 and 2021 for each of the companies, the membership (or not) to the area of influence of the project or nearby, and if they are dedicated (or not) to the production of "Chicken Milanese".

In addition, the offer of the product in poultry and butcher shops should be considered Through an estimate previously made by the company, it is known that these sites concentrate 70% of the offer. In other words, the production of the product by the companies identified as competitors represents 30% of the supply in the area of influence.

IV.2 FORECAST OF THE OFFER

To make the supply forecast, only those companies that have been determined as competition for the project are taken into account, that is, they produce "Chicken Milanese".

The 16 companies that distribute their production in the area of influence of this project have been identified For this reason, an estimate of the forecast has been made for each of them in the time horizon of the

Project. Table 4 shows the forecast of the total offer made by the 16 companies, of products based on chicken meat.

Table 4: Supply Forecast for the Project's Potential Market Source: Own elaboration

YEAR	FORECAST OF THE TOTAL SUPPLY OF THE 16 COMPANIES (KG)
2022	291,703,981
2023	299,951,225
2024	308,198,469
2025	316,445,714
2026	324,692,958

An investigation has been carried out on the web pages of each of the 16 companies, to determine what percentage of the production is in the "Chicken Milanese" product format, obtaining that this proportion is an average of 20% of the total production. Table 5 details the supply of the "Chicken Milanese" product and its projection within the area of influence of the Project, based on the forecast of the total supply and the percentage of production of the average product of the companies.

Table 5: Product Supply Forecast Source: Own elaboration

YEAR	TOTAL SUPPLY OF POULTRY MEAT (KG)	FORECAST		
		TOTAL SUPPLY OF POULTRY MEAT (KG)	PRODUCT OFFER 16 COMPANIES (KG)	TOTAL PRODUCT SUPPLY IN CATCHMENT AREA (KG)
2019	267,129,621	267,129,621	53,425,924	178,086,414
2020	274,874,745	274,874,745	54,974,949	183,249,830
2021	283,624,110	283,624,110	56,724,822	189,082,740
2022		291,703,981	58,340,796	194,469,320
2023		299,951,225	59,990,245	199,967,483
2024		308,198,469	61,639,694	205,465,646
2025		316,445,714	63,289,143	210,963,809
2026		324,940,202	64,938,592	216,461,972

IV.3 UNSATISFIED DEMAND

Unsatisfied demand is the demand that has not been covered in the market and that can be absorbed, at least in part, by the Project. In other words, there is unsatisfied demand when demand is greater than supply [13]. The results are presented in Table 6.

The company's objective is to produce a maximum of 900 kg/h., that is, it intends to install a production line that has this capacity, and according to the usual rhythm of monthly work, it is equivalent to absorbing approximately 5% of the unsatisfied demand. Therefore, in the first year, according to its strategic business plan, it would cover 2% of the unsatisfied demand, increasing its production to 35% in the second year and finally in the third year it would cover 5%. This would be part of the commercial strategy of the company, defined by its partners.

Table 6: Unsatisfied Demand Forecasted Source: Own elaboration

YEAR	DEMAND FORECAST (KG)	SUPPLY FORECAST (KG)	UNSATISFIED DEMAND (KG)
2022	234,188,886	194,469,320	39,919,566
2023	241,820,911	199,967,483	41,853,428
2024	249,452,936	205,465,646	43,987,290
2025	257,084,961	210,963,809	46,121,152
2026	264,716,986	216,461,972	48,255,014

V. ANALYSIS OF THE PRICE

In economics, price is defined as the amount of money assigned to a product or service, or the sum of the values that buyers exchange for the benefits of having, using, or enjoying a good or service [1].

The establishment of the price and its policy is of the utmost importance, since these influence the perception that the final consumer has about the product or service and the behavior of the demand, therefore, the determination of the price of the product must be based on the market structure, the analysis of the prices of the competition and the costs associated with the product [6]. The pricing strategy that is initially implemented does not necessarily have to be maintained throughout the life of the Project, but rather it must be revised as the operation and sales activities progress. Its modification is made based on the evolution of sales and the stage of the product's life cycle in which it is located.

The life cycle consists of four stages: introduction, growth, maturity, and decline. In each of them, appropriate strategies must be implemented to maximize benefits [6]. Figure 2 shows the evolution of the life cycle of a product.

The product is in the maturity stage, since it has been fully installed in the market for years. By introducing its new product, the company becomes a new entrant in a mature market.

At this stage where the company enters the market with its new product "Chicken Milanese" and the business seems to have a foothold, which is the weight that the organization has as a brand already installed in the market, then the company must act accordingly consequence to achieve two objectives: (i) penetrate the market and (ii) promote the product.

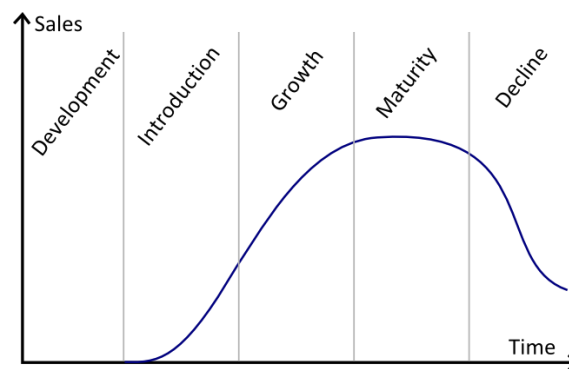


Figure 2: Life cycle of a product

Therefore, by decision of the company, the method of market penetration by low prices is used as a commercial strategy for the first three years. This is a strategy that is based on defining low prices to quickly and deeply penetrate the market, without losing sight of production costs to avoid economic losses, thus achieving a profitable sales level and competing with brands already installed.

With the implementation of this strategy, it is intended that consumers initially choose the product, attracted by its low Price, this would add to the quality and reputation of the products made by the company, for this reason it would become the preferred alternative for consumers. The strategy consists of establishing the sale price as follows:

- For the first year. 15% less than the lowest price of the main competitors.
- For the second year. 10% less than the lowest price of the main competitors.
- For the third year. 5% less than the lowest price of the main competitors.
- For the fourth and fifth year. equal to the lowest price of the main competitors.

VI. ANALYSIS OF THE MARKETING

Marketing is understood as the activity that allows the producer to deliver a good or service to the consumer with the benefits of time and place. Good marketing is the one that places the product in the right place and at the right time, to give the customer the satisfaction that he expects with his purchase [13].

VI.1 CURRENT COMMERCIALIZATION CHANNEL

Currently the company distributes its products to consumers, using a distribution channel for mass consumption goods. In the Figure 3 represents the same.



Figure 3: Distribution Channel Currently Used by the Company Source: Own elaboration

This channel is the most traditional for companies, it consists of the transfer of products to wholesale distribution centers. The transfer to the distribution centers is in charge of the company that is the subject of this work, then the wholesale and retail distribution channels are outsourced.

For operational and cost convenience, it is decided to use the current distribution channel mentioned, using the large fleet of vehicles specially equipped for transport and distribution, made up of more than 50 units that the company has to transport its products to distributors wholesalers.

VI.2 PRESENTATION OF THE PRODUCT

The product is protected with a primary container according to the type of product in question, and is then placed in a secondary container. In this case, as it is "Chicken Milanese", the company adopts as primary packaging vacuum-sealed plastic bags that can be 05 and 10 kg of the product, each milanese is separated by a layer of plastic film. The secondary packaging is a cardboard box containing 25 kg of the product.

VI.3 LAUNCH STRATEGY

The product launch strategy has been designed in order to divide the area of influence into two groups that include different provinces, according to their population. Therefore, the product is launched on the market in two stages, as follows:

- Stage 1: product launch in the provinces of Santa Fe. Entre Ríos. Chaco. Santiago del Estero and Salta (First year).
- Stage 2: launch of the product in the provinces of Córdoba. San Juan. San Luis. Mendoza and Tucumán (Second and third year).

Each group of provinces contains 50% of the population of the area of influence. The fact of launching the product in stages allows the company to gradually adapt to the new production line.

The production line will work the first year at half capacity (450 kg/h), the second year it increases its production by 50% (675 kg/h) and from the third year it will produce at full capacity (900 kg/h).

VII. CONCLUSIONS

In the development of this work, the main aspects that make up the market study have been developed, that is to say: i) Demand analysis. (ii) Supply analysis. (iii) Prices and (iv) Marketing. Carrying out the Market Study allows us to know the initial feasibility of launching a new product - Chicken Milanese - by a renowned company in the poultry sector based in Region 3 - Node Santa Fe, Argentina. The main conclusions obtained are detailed below:

- It is observed that in the demand forecast, the consumption of the product is increasing, which presents a favorable aspect.
- The supply analysis reflects the level of production in the area of influence and its forecast reveals the existence of unsatisfied demand, so it is not difficult to introduce the product in the market.
- The analysis of the Price, leads to carry out a strategy of the same to carry out the penetration of the product in the market. Which basically consists of offering the product at a lower price than the competition and increasing it over 5 years
- The marketing study shows that the company has a structure and recognition that facilitate the development and introduction of the product. In addition, it should be noted that the supply of raw material is not a problem for the development of production since it is produced by the same company. On the other hand, the form of presentation of the product and the launch strategy are established.

It should be noted that the company must adapt its production plant, so that it can install a production line, corresponding to the new product "Chicken Milanese".

Therefore, after completing the market study, the other analyzes continue to determine the feasibility of the new production line project, ending with an economic-financial evaluation, obtaining the economic viability indicators of the same.

ACKNOWLEDGMENTS

The authors are grateful for the economic contribution provided by the National Agency for Scientific and Technological Promotion, through the Fund for Scientific and Technological Research (PICT 2020 - SERIE A 003533) and the National University of Litoral (PI CAI+D 2020 - 50620190100030LI).

REFERENCES

- [1]. Baca Urbina. G. (2010). "Evaluación de Proyectos" México: McGraw Hill
- [2]. De Greef. M., Arcusin. L., Rossetti. G. (2017a). "Comparative Analysis of Product Development Process Management at Food Industries" International Journal of Research and Reviews in Applied Sciences. Vol 30, N° 3, pp 51-60.
- [3]. De Greef. M., Arcusin. L., Rossetti. G. (2017b). "Gestión del Proceso de Desarrollo de Productos: Estudio de los Niveles de Madurez en Industrias Alimenticias". Iberoamerican Journal of Project Management. Vol. 8, N° 2, pp 94-117.
- [4]. Instituto Nacional de Estadística y Censos (INDEC) (2013). "Proyecciones Provinciales de Población por Sexo y Grupo de Edad 2010-2040". Argentina: Imprenta oficial.
- [5]. Kahn. K B., Kay. S E., Slotegraaf. R J, Uban. S. (2015). "The PDMA Handbook of New Product Development". USA: John Wiley & Sons.

- [6]. Kotler P., Armstrong G. (2017). "Fundamentos de Marketing". México: Pearson Addison-Wesley.
- [7]. Lasa Gómez C., Álvarez García A., de las Heras del Dedo R. (2017). "Métodos Ágiles, Scrum, Kanban, Lean". España: ANAYA Multimedia.
- [8]. Ministerio de Agricultura. Ganadería y Pesca (MAGyP) - Presidencia de la Nación (2009 - 2021). "Boletín Avícola". Argentina: Imprenta Oficial.
- [9]. Nahmias S. (2006). "Análisis de la Producción y las Operaciones". Mexico: Continental.
- [10]. Rossetti G., Yossen P., Mautino E., Arcusin L. (2017). "Viability of rice flour production. A case Study". International Journal of Research and Reviews in Applied Sciences. Vol 33, N° 3, pp. 37-44.
- [11]. Rossetti G., Donda M., De Greef M., Arcusin L. (2019). "Study of the Management of the Development of Products in Food Production Companies". International Journal of Industrial Engineering (SSRG-IJIE). Vol 6, N° 2, pp. 11-20.
- [12]. Rozenfeld H., Forcellini F., Amaral. D., Toledo. J., Silva S., Alliprandini D., Scalice R. (2006). "Gestão de Desenvolvimento de Produtos: uma Referência para a Melhoria de Processo". São Paulo: Saraiva.
- [13]. Sapag Chain N., Sapag Chain R., Sapag J. (2014). "Preparación y Evaluación de Proyectos". México: McGraw Hill.
- [14]. Valdivia J. (2015). "Formulación y Evaluación de Proyectos de Inversión". Perú: Editorial Macro.
- [15]. Ynoub R. (2014). "Cuestión de Método. Apuntes para una Metodología Crítica". México: Cengage Learning.