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HIERARCHIZATION OF THE DECISION-MAKING PROCESS ACCORDING TO THE ECONOMIC SECTOR

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ABSTRACT

The objective is to delineate a hierarchical model of decisions and respective management indicators. In an everyday universe of events that occur, if considers a purpose of the organization can face a hierarchy of decisions, from major strategic to minor ones. Such a finding, if delineated as a model, it can be useful in the study of the decision-making process. For this analysis was adopted a multiple case study method applied in commercial, industrial and service organization. Afterward was maximized with a differentiated sample of managers selection to be interviewed according to the organizational pyramid hierarchical rank as structured bases; meetings with key opinion groups; available preliminary data collection directly from the websites. As a result, a hierarchical decision model was obtained, differentiated according to the acting economic segment.

Keywords: hierarchical decisions; management indicators; performance



1. INTRODUCTION

Considering the greater purpose of the organization in the universe of everyday business events, a hierarchy of decisions can be identified on a relative scale of importance, from strategic to operational. This finding, combined with the different segments of the national economy, is the presupposition of the model proposed for the business decision-making process, based on the following reasoning.

The concepts of Kuhn (1962) have been used and are contributing to a greater degree with studies related to scientific revolution; paradigm as a consensus in the scientific community; the pre-paradigmatic phase of knowledge; normal science and consolidated scientific paradigms; conceptualization of science. Therefore, it is deduced that Kuhn's work (op.cit.) has contributed to the area of administration, especially in what concerns the concepts of paradigm, models and the scientific revolution.

The predominance in the use of the concept of scientific revolution over normal science in the reviewed studies and the emergence of the concept pre-paradigmatic phase among the most cited may be related to the administration itself, while large area would be in embryonic or developing state, since it is a young science and therefore, not yet being observed the occurrence of a normal science. It is deduced that the concepts of Kuhn's work (op.cit.), initially focused on the exact sciences, may contribute to the understanding of characteristics of the administration area.

Over time, one theory overlaps the other, through the concept of paradigm, because a scientific achievement becomes the model for other researches in that area, through the concept of normal science, because much research is done in agreement with an already existing perspective since the administration does not have a consolidated general theory.

2. THEORETICAL FOUNDATION

2.1. Hierarchization of decisions and indicators

The hierarchization of decisions, according to Tachizawa (2018) can be implemented observing assumptions that:

- a) there are different types of organizations (economic sectors);



- b) the decision-making process, as a direct function of the productive chain, can be hierarchized at decision levels within the contours delineated by the strategic focus defined for the organization's business;
- c) the decision-making process consists of decisions (strategic and operational) necessary for the operationalization of business activities;
- d) an organization, whatever its economic sector, can be hierarchized in layers (strategic level and operational level), where operational level decisions group actions inherent to its productive chain;
- e) strategic decisions establish management rules for the operational decisions layer;
- f) the productive chain (operational cycle or value adding chain) is composed of productive systemic processes (end-activities of the organization) that are in turn aided by the support processes.

According to the model, once the productive chain is defined, the decisions that make up the decision-making process are identified, for its subsequent hierarchization. Using commercial and industrial equipment and motor company as an example, one can hierarchize its decisions as explained below. This hierarchization stratifies strategic-level decisions (inherent to business mission) and operational-level decisions. By strategic is meant the decisions that directly affect the strategic objectives outlined by the top management.

Tachizawa (2018) defines management indicators as a relationship between two variables, in the form of numerator and denominator, where their attributes and values are possible to measure. Measurements according to these authors need to be as a result of the organization's corporate strategies, including processes, systemic. To analyze what has been measured means to obtain important information and conclusions to support the decision making necessary to reveal cause and effect relationships that may not be evident in a process.

These management indicators, as an integral part of the model, can be structured as a relation between two variables, in the form of numerator and denominator, where their values are possible of measurement. Conceptually, this set of indicators related to the performance processes of the organization as a whole

represents a consistent basis to align the activities of the productive chain with the financial decisions of the organization.

In addition, a benchmark of excellence, the process was considered relative to the comparative analysis of the data of the organization in focus with those of the market competitors.

2.2. Types of organizations

Organizations in this context can be classified by a number of employees (SEBRAE, 2018) or by billing (BRASIL, 2006). Classification according to its economic sector of activity (FAPESP, 2018), equivalent to the addition of the Melhores e Maiores (EXAME, 2018), may be another criterion to be adopted. This last publication shows that the profit margin of the supermarkets is small, varying between 0.5% and 7% however, compensating in the total turnover that is around 4 times a year. Likewise, the situation of other companies that win in the total turnover of their assets, such as oil distributors, collective transportation, retail trade organizations, vehicle distributors, and the like.

The factors that would allow the grouping of different companies into blocks, equivalent to each other, would be the degree of concentration and differentiation of products. It is possible to consider as essential factors to the application of the suggested methodology, the products and productive processes adopted by the companies. It is based on the observation that in the market there are companies different from one another, which can be grouped into differentiated categories, characterized by a gain in the turnover of the asset arise, unlike those that gain profit margin, just to mention two elements of analysis.

Companies belonging to the nonmetallic minerals (cement) sector, according to Exame (2018), are characterized by profit margin gains, according to the balance sheet data, whose analysis reveals high profitability levels, around 20-30%, in addition to turnaround indicators of around 0.5 to 1.0 (companies that require large investments will find it difficult to sell the asset at one time during the year or, equivalent to the asset only once).

Other margin-winning companies are textile, public service, and other equivalent organizations that belong to oligopolies industries (or business), or even

monopoly (public services, as in the case of telecommunications) of the national economy. Examples of such differentiation of results by type of company are given.

This approach, which takes into account the differentiated characteristics of the companies, can be applied in the interpretation of the law of reverse logistics and labor outsourcing. In order to illustrate the differences arising from the characteristics of its business, some of the best and worst performances were:

- a) state monopoly organization was the largest company in the country by sales volume;
- b) organization of state control in the area of monopolized public services, was the largest employer of labor in the country;
- c) organization from differentiated industry, producer in the area of beverages and tobacco, had the highest profitability;
- d) municipal company in the area of transportation service was the most indebted;
- e) company in the construction sector was the one with the highest working capital;
- f) state explorer of electric power, was the one that experienced the greatest loss in absolute terms. The organizations reflect the logic and dynamics of the economic sector of which they are part (TACHIZAWA, 2018).

This theoretical basis was part of the basis for the design and implementation of the model explained below.

2.3. Characterization of typical restaurants

Personality traits (POZO; POZO; TACHIZAWA, 2011) are determined from observation and behavior, as well as physical characteristics (PARK, 1986). Thus, as people develop their own personalities, reflecting a relatively simple process of personality development (MCCRAE et al., 2000). In the same way, the personality of the brand is defined as the immediate emotional way that is obtained as a response of people to a brand (LARSON; COUCOUVANIS; PROUTY 2003).

According to Burke & Jan (1997), an effective strategy uses the personality of the brand, correctly and consistently communicated and, therefore, provides an impressive variety of benefits, including the following:

- a) the construction of its own brand generating a positioning in the general approval;
- b) the creation of a recognized environment for effective communication with customers;
- c) the development of a strong image of the brand for the products and services provided;
- d) the differentiation of the brand in the market;
- e) allow the company a highly perceived added value for its products and services.

Aaker (1998) developed a Brand Personality Scale (BPS) to explore the meaning of 37 commercial brands, examining how those attributes of personality are structured in the minds of people in the United States. The development of the process ensured the validity, reliability, and generalization of the scale in the field of brands. Forty-two BPS personality traits were identified in five dimensions: sincerity, enthusiasm, competence, robustness, and sophistication. These five dimensions have successfully described the personalities of many strong brands in the United States (AAKER, 1998).

For example, a brand can have a complex personality, which varies in dimensions, as is the case of McDonald's that was evaluated with a high attribute in sincerity and competence. In an Aaker BPS application in different restaurant segments, such as fast food, occasional dinners, and executive lunch were distinguished based on the five dimensions of the BPS, but, in relation to the distinction among luxury restaurants BPS scale, I did not succeed (SIGUAW; MATTILA; AUSTIN, 2003).

3. METHOD ADOPTED

This work was based on the method of the case study, which is limited to the investigation of a phenomenon in a certain period of time (YIN, 2001). This multiple case study approach (involving more than one entity) was applied with:

- a) use of a structured interview script;
- b) survey meetings with opinion-forming groups;

- c) selection of a differentiated sample of managers to be interviewed according to the hierarchical rank of the organizational pyramid;
- d) preliminary data collection directly from the websites made available by the forty companies of the sample, via the Internet.

Aiming at the development of the multiple case study of the forty companies, three organizations from the industrial, commercial and service sectors were selected. Another effective approach was to stratify organizations, based on their organization chart, at strategic (top management) and operational levels (factory floor employees). Based on this stratification, we interviewed managers, production coordinators, and managers of the strategic and operational units of the companies.

In addition, survey meetings were held in the class entity to which the entities participating in the survey belonged. Finally, data were collected from the websites of organizations, to complement the collection of data using an individual interview script with the managers of those organizations. Three companies of services, commercial and industrial segments were considered for analyzing the applicability of the model.

4. ANALYSIS AND RESULTS

4.1. Gastronomic Services Company

Gastronomic Services Company (Empresa de Serviços Gastronômicos - ESG), originated from a business opportunity, with the purchase of a commercial point in a food court of a hypermarket in Rio de Janeiro (Brazil). A restaurant already existed in this commercial point, but the new owners renamed it. The company was constituted as Individual Entrepreneur, with taxation by "Simples Nacional".

ESG has three registered and reliable suppliers (delivery/term/value) for each line of product used, such as disposables, cleaning products, meats, frozen foods, groceries, vegetables, drinks etc. Supply prices fluctuate, and new vendors and products are regularly consulted, testing new brands, innovating revenues and menus, and updating and balancing costs. ESG is placed in an area where there is only one direct competitor. The other stores sell snacks, desserts, and coffee.

Snacks were part of the menu at the beginning of ESG operation, but this is not its focus. There were no snack stores nearby and this was kept on the menu to serve customers who were already accustomed to the product and convenience of ordering



in one place (on weekends the restaurant manages to serve the whole family, while parents choose executive dishes, children opt for snacks).

Strong competition lies outside the enterprise. Along the whole avenue, there are bars, snack bars, restaurants and the like, that manage to make a lower price (and those clients that focus too much on price are attracted by these establishments). For this, quality is a constant challenge.

ESG managers participated in a SEBRAE project for the food industry and, with the network between the project's merchandising team and, in addition to the institutional orientation, it became possible to collaborate with an online order and delivery Startup, beginning a new sales channel. This new modality of sale is increasing, with good acceptance by the customers because of its celebrity. The dissemination for customers to know this new service is worked extensively, since the more people come to know of this new service, the higher the possibilities of capturing new clients are.

The analysis made by the owners regarding this increase in sales on the counter is that the advertising made for the delivery reminded customers of the ESG brand. "Exchange is the act of getting the desired product from someone by offering something in return. Marketing comes when people decide to meet needs and desires through the exchange." From this experience, the owners clearly understood how important it is to work the marketing of the restaurant and to insert innovations of trend and impact, to narrow the distance between the needs and desires of the customers.

Its strategy for attracting new customers is based on a) economic: offer quality products with competitive price (dish of the day, promotions, partnerships etc.); b) market: regularly explore new products and suppliers, as well as seek to understand the competition, new distribution channels, technological innovation for better customer service (electronic order) and also for compliance with tax legislation.

In addition, identifying customer needs (time, price, quality, portion quantity, light, and integral products, children's products and products to serve the whole family.) By understanding all these factors, it is proposed to work with marketing, with permanent training to the employees.

With regard to the commercial policy item, pricing takes place through the calculation of costs and expenses with an estimate of contribution margin and

comparison with the market price. The prices practiced are in a high-median range due to the high quality of the inputs, so the restaurant tries to excel in flavor and quality. This is one of the characteristics of ESG, offering tasty products and unmistakable quality.

4.2. Business enterprise

The Commercial e Distribuidora de Veículos (Commerce and Distribution of Vehicles - CDV) is a family-owned company, which is looking for a path to its recovery, both in the aspect of global results and in the sense of internal reconfiguration. It survived through time with: strong organizational culture; close contact with their external environment; attention to customers; delegation to lower levels of the organization; and conservative financial policy.

The company lives a moment of family succession. The presence of a family at the head of this organization is a factor of differentiation in front of its competitors, for transmitting a greater commitment of the managers with the company, high ethical values and special attention with the quality of the products offered to its customers.

Its market and demand are located in Rio de Janeiro (Brazil). Recently, with the opening of imports, the threat of new competitors appeared. CDV's potential market is comprised of consumers with relatively stable purchasing power, a fruit of the essential tourism and industrial nature of the region's businesses.

As a business philosophy, the company concentrates efforts on profitable businesses. They usually register and analyze their business carefully in terms of profitability. This is how it determines which businesses are profitable and deserve greater efforts, and which businesses do not deserve investment and attention from the top management. CDV is divided into three areas of results, or strategic business units: new vehicles (VN's); used vehicles (VU's); parts and services. Each unit is analyzed separately in terms of costs and profits. These strategic elements were extracted from the mission "sales of the new vehicle, buying and selling used ones, and workshop services".

In the current context, there is an expected total gross profit, projected because of the projections prepared by the managers of the three results areas. Such managers discuss their estimates with their subordinates in order to check their feasibility and verify that nothing is out of reality, using for that, criterion that the business unit should

absorb the administrative expenses on the basis of 50% based on the gross profit and 50% as a result of the investment, as well as revenues from sales, which should follow the average of the last three months.

The company's management projects the number of units it expects to sell per month. This projection is based on the acceptance of the models, the economic conditions of the region and the experience, whose calculation always seeks to follow the average of the last months of sales. This experience has allowed for accurate and detailed calculations of future expenses. The data for the periods is recorded according to the principles of profit centers and cost centers associated with business units, and projections are made on a quarterly basis to adjust to the new market conditions.

Each manager of the business areas, along with the forecast of sales and costs of the products sold makes the projection of expenses. The estimates also take into account the growth rate, mainly in relation to the parts and services business unit. It adopts the direct costing system for purposes of determining the marginal contribution in each product line.

The operations philosophy emphasizes the quality of products sold. The Chief Executive Officer insists that all practices related to this matter be communicated in writing, through instructions, which include the values of the company. Vendors meet with the Sales Manager on a daily basis to discuss problems, review stocks at VN's and VU's, and receive systematic training for 45 minutes prior to the day's operations.

Each salesperson presents a daily report of their contacts and activities to customers at the end of the day. Its philosophy of employee compensation states that the Parts Manager and the Workshop Services Manager are remunerated on a personal incentive basis, receiving a fixed salary plus percentage of sales calculated after deduction of direct and indirect expenses.

Team awards are adopted to enhance and motivate individual performance, which the Board believes to be more efficient and that better contributes to increasing sales, revenue and, therefore, the profitability of the company. Sellers receive a fixed salary and commissions, which percentage increases progressively, according to predetermined rates depending on their individual performance.

Their “marketing” practice considers that managers know the costs of the vehicles and the gross profit that they must obtain to make profitable sales, directing their respective salespeople to the movement and clients served. Sellers seek sales and exchanges, the best deals from customers, and submit them to the Sales Manager’s assessment, which accepts or rejects them based on gross profit, and the possibility of creating a positive image of the company. Radio ads are efficient in the region, according to the Sales Manager and should be widely used.

Advertising on the integration of brand distributors and their products is carried out nationally by the automaker (the official manufacturer of the brand marketed). The exchanges are evaluated by the Sales Managers of new and used vehicles, in the value of the wholesale less the costs of reconditioning. When it is decided to refurbish a vehicle, it is sought to carry out the necessary services within a maximum of 48 hours, in the distributor's own workshop, and in cases of excessive volumes of activities, to perform such services in specialized workshops of third parties.

As an administrative structure, a permanent inventory control system enables the safe recording of parts in stock and enables consistent replenishment of purchases. During the fiscal year, the physical inventory is counted monthly. The provisioning policy for stock losses is strictly enforced, to avoid surprises at the end of the year.

Each center for calculation of results per business unit maintains its own daily operational record, and the accumulated data for the periods considered. The monthly control and its results are compared to the budget data. In the day-to-day business of the company, when deviations of the monthly data are verified with the data budgeted in the same period, the causes are identified, and the pertinent measures are taken.

4.3. Industrial company

The Empresa de Produtos Laminados (Rolled Products Company – EPL), located in Rio de Janeiro (Brazil), is a business of industrialization and trade of rolled products, belonging to the sector of metallurgical activities. Its products are metal frames; iron components; and spare sets.

As with any business, this type of company poses varying degrees of risks that the entrepreneur must know. These factors pose risks of varying degrees of intensity. The main risks of this type of business are related to



- a) high costs of raw materials;
- b) respect to the norms of the Brazilian Association of Technical Norms (ABNT) regarding the specifications of products that demand rigid inspection;
- c) seasonality in sales operations.

EPL's mission is "industrialization and commercialization of metal frames for building materials stores and builders." Advances in the construction sector that have caused changes in the entrepreneur's relationship with its consumers characterize its scenario. The development of micro-enterprises is related to constant innovation in the construction. The companies that manufacture and market such a product may choose to sell where the customer pays only the product or sell to building materials stores. If they decide on these retail stores, they automate the packaging process.

EPL sought to observe the market in its operations as to the type of customer that the product is intended for, the customer's wishes; what characteristic my service should present; where the competition is; what size it is; resources (financial, material, human) will be needed to adapt to the market needs. The purchase of raw materials by EPL is smooth, despite fluctuations in prices and payment terms. Suppliers, in general, are large groups that maintain a monopoly of raw materials and require quotas for their acquisition.

There are also intermediaries who sell in bulk, who demand their inputs at a relatively higher price when compared to other raw material acquisition alternatives. In the analysis of the competition, EPL took into account the size, location, and power of penetration. This research-based analysis establishes the strengths and weaknesses of the competition.

Among these points, one should check the quality of the product, the average delivery time, the service system and the price practiced by the competing market. The competition in this sector is high, for there are legalized competitors and a significant number of "informal" companies selling products at low prices. Building material store networks can also lower their prices thanks to their high inventory turnover.

In this way, EPL and other companies in this segment must distribute its product in the most varied regions, with good quality, and at competitive prices. This market, although competitive, has the capacity to absorb all the production, because they are

the first necessity products with extremely high consumption. EPL installed its factory in an industrial shed containing all basic infrastructure in terms of water, electricity, telephone and related facilities.

When the project was initially implemented, the facilities and equipment were physically arranged in a single area, in an open space, to house the three production lines of metal window frames; dismantled frame assemblies; and spare parts. They also implemented spaces for storage of raw materials, storage of finished products, movement of people and other aspects of a functional physical arrangement.

The initial investment required by the enterprise implemented by EPL was composed of fixed investment (new or used machinery, other equipment used in its activities) and working capital. Working capital included the resources needed to purchase the initial merchandise inventory for the payment of administrative expenses (fixed costs) for the first months and to cover other expenses (registration, advertisement, promotion, and similar items).

The total production costs of EPL. were composed of variable costs (direct labor and direct materials); and fixed costs (which depend, among other factors, on the amount that each partner intends to withdraw from the company as pro-labor, from the property to be owned or rented, from public service tariffs and from hiring or not administrative support staff).

4.4. Hierarchization model

Based on the analysis of the data of the organizations surveyed, their basic characteristics, common to the other organizations of the economic sectors to which they belong, were specified, as explained in Table 1. These characteristics were the basis for the proposed model, with different results in the three organizations analyzed.

In fact, industrial organizations involve companies that transform productive inputs into products, as is the case of automotive vehicles, which is a product manufactured from raw materials such as tires, steel sheets, upholstery, engines, and inputs manufactured by their suppliers.

While it is necessary to recognize that each economic sector has its particular characteristics, it has become useful to group companies that, generally, have similar characteristics, to verify the operation of blocks of companies and the behavior of the competitive forces within each business grouping. The factors that allow the merging

of different companies into blocks, companies more or less equivalent to each other, are the degree of concentration (which is basically determined by the barriers to entry of new companies in the industry), the degree of differentiation of products and production processes adopted by organizations.

It was based on the observation that there are different companies in the market that can be grouped into differentiated categories, showing organizations that are characterized by a gain in the asset turnover, unlike others. Its formulation focuses initially on the understanding of the organization as a whole and its interrelationship with the economic sector or area of business in which it is inserted.

This form of simplified classification in the economic sector (industrial, commercial or service) can unfold in several segments (subsectors) increasing the complexity of such typology. That is, a sector such as the industrial sector is subdivided into segments of manufacturing such as vehicle assemblers; steel industry; paper and cellulose; cement; chemical; and others.

Commercial organizations, wholesale and retail mode, have their basic characteristics. These organizations intermediate transactions between the industrial organizations selling the products they manufactured to the customer (final consumer). This is the case of vehicle distributors who sell the automotive vehicles manufactured by the automakers selling them to their customers (individual or legal buyers).

In addition, the organizations of the services sector are those providers of work to the organizations of other economic sectors (industrial and/or commercial) or even those belonging to the same branch of services (see Table 1). Examples of organizations in this sector are those that provide surveillance services, property security, advertising, and other related services.

Industrial organization Application of certain principles of Taylor/Fordism with evolution to Toyotism. Standardized production flow (assembly line or continuous production flow). Manufacture of normally homogeneous products. They transform raw materials (productive inputs) into final products (industrial goods).

Commercial organization Emphasis on the concepts of the Contingency Theory with activities of buying and selling products purchased from industries or other commercial organizations. They are retail and wholesalers.

Organization of services provision Custom production of services. Heterogeneous products (services). They are organizations such as sewing studios; software studios; business consulting; advertising agencies; accounting offices; schools and colleges; among others.

Table 1. Basic characteristics

Industrial organization	Application of certain principles of Taylor/Fordism with evolution to Toyotism. Standardized production flow (assembly line or continuous production flow). Manufacture of normally homogeneous products. They transform raw materials (productive inputs) into final products (industrial goods).
Commercial organization	Emphasis on the concepts of the Contingency Theory with activities of buying and selling products purchased from industries or other commercial organizations. They are retail and wholesalers.
Organization of services provision	Custom production of services. Heterogeneous products (services). They are organizations such as sewing studios; software studios; business consulting; advertising agencies; accounting offices; schools and colleges; among others.

This form of analysis allowed the identification of its basic characteristics, generic strategies and operational strategies to be observed in the proposed model.

4.5. Decision making and management indicators

The model is based on the principles of characterization of the organization distinguishes different types of organizations; the existence of generic and specific strategies for each type of organization. The specific strategies, which depend on the management style of the manager and their beliefs, values, therefore, not considered in the suggested model. It was also adopted the assumption that the decision-making process is a direct function of the organization's productive chain and that it can be hierarchized in levels within the contours delineated below (see figure 1). The model considered an outside-to-inside approach to the organization and the general-to-the-private according to the systemic approach adopted.

This approach shows that an organization, whatever it is, is a succession of decisions that its manager needs to make throughout his or her lifetime. These decisions can be hierarchized on a scale of relative importance where "important" are classified as strategic and "minor" are framed as operational.

The model takes into account that the manager, in any decision, cannot consider everything equally important (too many decisions and information can camouflage crucial issues). The strategic decisions, therefore, are those related to the



adaptation of the organization to the external environment and that affect its competitive position in the economic sector to which it belongs.

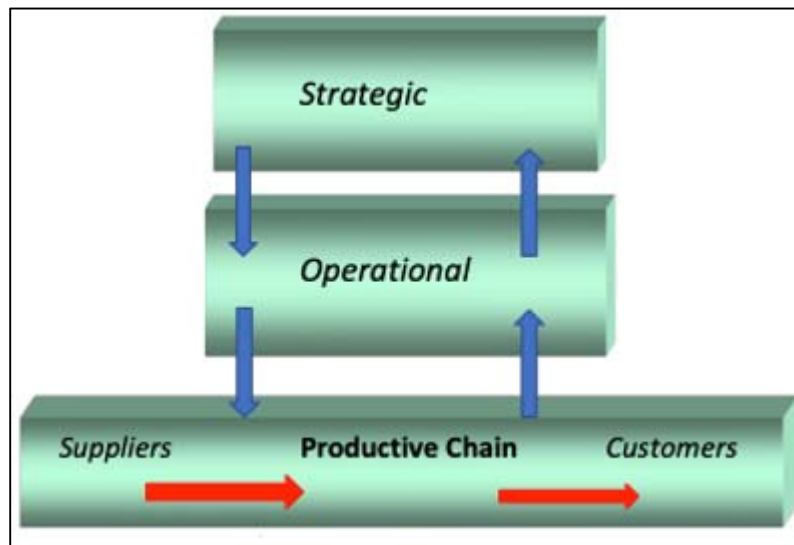


Figure 1: Hierarchization model
Source: Authors' conception

It usually refers to long-term business activities where the nature of their decision is complex, not clearly defined where one problem is different from the other. It, therefore, uses information from the external environment and flexibility to solve its problems (e.g. innovation in products and/or production processes) with the application of innovative technologies.

Operational decisions, on the other hand, refer to choosing the course of action to be taken in the operational cycle of the organization (productive chain of its end-activities). Their decisions usually relate to the internal environment, their short-term time horizon, and their problems are routine and repetitive, therefore, they can be standardized.

4.6. Implementation of the model

The implementation of the model was done at the ESG, whose mission was “to provide gastronomic services to the tourist-class public.” To achieve this, the company tries to meet the expectations of its customers and employees and be recognized in the market for its quality.

The management of its business activities involved decisions to be made regarding services; price; distribution channels; and promotion and advertising. These decisions were ranked from the “most important” (strategic) to the “least important”

(operational) from the analysis of their mission and productive chain, as shown below (see figure 2).

Strategic-Level decisions were identified in terms of services and strategic partnerships. The latter with hotels; tourism agencies; providers; transport companies; promoters of social events; specialized media; class entities; producers of gastronomic programs; cellars; and local restaurants

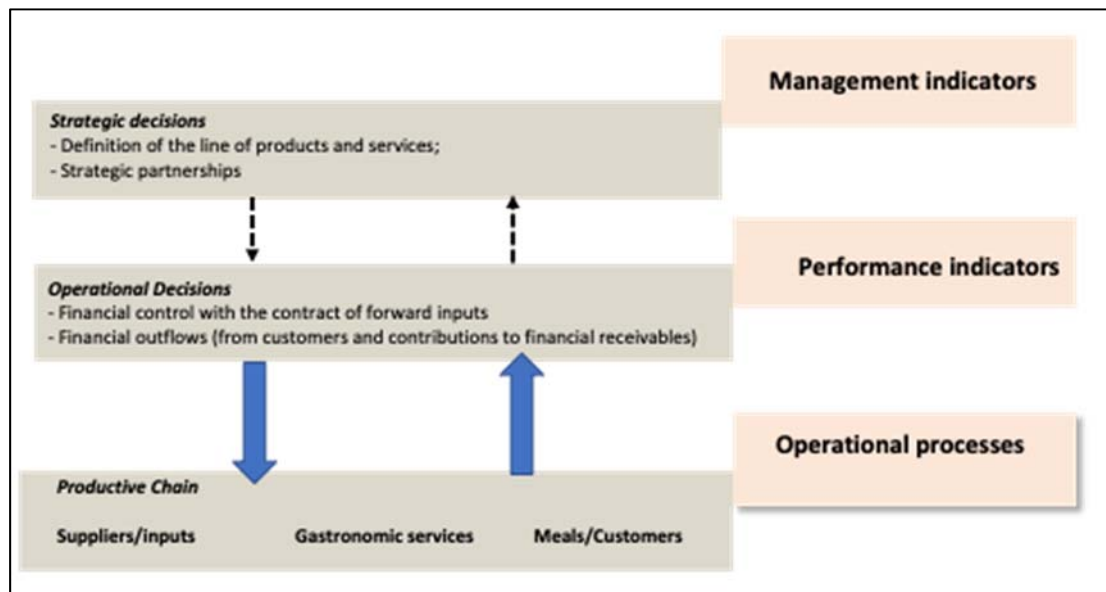


Figure 2: Decisions in service organizations

Source: authors

It was defined as a management indicator, metric to measure the financial outlays and disbursements, to monitor the continuity of the organization's strategic activities. It is calculated as:

Indicator of outlays and disbursements (IED) is number of days of disbursements (*ndd*) divided per number of days (*nd*).

$$\text{IED} = \text{ndd} : \text{nd}$$

This indicator, now calculated as "3" (120 days divided by 40 days = 3), means a metric positive from 3 to 1 day, which is the disbursement cycle, with a longer payment period. That is, for each day of receipt of cash the company has "3" days of payment deadline. It means that the manager of the company would pay its suppliers on time (payroll and productive inputs) and would receive cash from the customers.

As indicators of performance (operational level) to control the activities of the production chain were defined: financial commitment; planned and performed; participation of partners; and own resources versus billing.

Financial commitment: The monitoring of the financial movement is done by means of an "overdraft commitment" indicator, which is a metric that relates the values coming from the bank checking account of the overdraft (or even from the credit card), relating to the personal expenses of the members (legal entity) in a given period (monthly) by the total financially handled by the company (value of checks issued / total of amounts disbursed in the period).

If the indicator reached is "0.05" it means that 5% of the expenses in the period were incurred by the individual, represented by the owners, as movement on their overdraft check (or even credit card). When linking amounts disbursed with items of property, plant, and equipment, one can use the possibilities of obtaining external financial resources to finance such acquisitions (asset purchase/disbursement amounts incurred in the period).

Financial control: "Planned versus realized control" is a metric that relates the planned values related to the personal expenses of the partners (legal entity), in a certain period (monthly) by the total planned to be handled, financially, by the company (planned values to be disbursed in the period / total of planned amounts to be disbursed in the period).

If the indicator is "0.10", it means that the individual, represented by the owners, as a movement on their overdraft check (or credit card), will incur 10% of the planned expenses for the period. The values of the relationships established in the metrics can be expressed in US dollars or other reference currency to allow comparisons with past years incurred in that same business organization.

The "membership participation" indicator is a metric that relates the amounts committed by members to pay expenses in a given period (monthly) by the total financially occupied by the company (resources of the owners / total resources moved (100%)). It is the kind of indicator the smaller the better.

For example, if the members disbursed US\$ 7,500.00 in a given month, out of a total of US\$ 75.00 handled by the organization, means an indicator of 75.00 divided

by 7,500.00 equal to 0.10, which means that 10% of the financial movement was banked with resources of the owners of the company.

Therefore, it is a situation to be avoided in the day-to-day operations of the organization. This is because the mixture of family and business of the company result in problems and conflicts between its owners. The indicator 'financial resources of partners versus billing of financial resources of partners versus billing'.

Own resources vs. billing is a metric that relates the values committed by the partners to pay expenses in a given period (monthly) for the total invoiced, by the company (resources of the owners total turnover of the company (100%)). The "membership expense" indicator is a metric that relates the personal expenses of the partners (legal entity) in a given period (monthly) to the total financially occupied by the company (total expenses associates / total resources moved by the company (100%)). If the indicator calculated is "0.05", it means that "5%" of the expenses incurred in the period were incurred by the individual represented by the owners.

The PDS indicator verified in the year showed that the owner represented 82% of the expenses incurred in the company. This percentage is significant since 82% of the total expenses incurred by the company did not belong to itself. The PRM indicator verified in the year indicates that 18% of the expenses are pertinent to the organization and that they were paid with own resources, evidence that the entity has the capacity to generate cash to meet its needs.

Based on the analysis it is noticed that the company has few expenses, for acting in the provision of services, however, it has been suffering the impact on its availability due to the personal expenses of the partners. Based on the CPR indicator analyzed for the year, it was possible to show that they were disbursed 10 times higher than expected and planned monthly for the withdrawal period. In none of the months studied the planned value was executed, as evidenced in the financial monitoring model.

The indicator "participation of expenses and resources handled" is a metric that relates the values related to the expenses of the company (legal entity) in a given period (monthly) by the total financially occupied by the organization (total expenses company / total resources moved by the company (100%)). If the indicator found is 0.05, it means that the individual, represented by the owners, incurred 5% of the

expenses in the period. The benchmark of the restaurant, dividing billing volume, revenues or sales in monetary terms, in Dollar) by the number of employees, with employment relationship more outsourced. That is an individual company indicator = billing volume number of employees.

Subsequently, of the restaurants in the region (sum of the affiliated companies the class entity/union of bars and restaurants), dividing sales volume, revenues or sales in monetary terms, in Dollar) by the number of employees, with employment contract plus outsourced. This is: region indicator RI) is equal to billing volume (bv) divided by the number of employees (ne).

$$RI = bv : ne$$

Indicator A: “14% of sales channel delivery”. Increase sales through the delivery channel (marketing and good service). Increase sales through the delivery channel (marketing and good service). Due to the volume of card receipts, it is necessary to monitor the respective bank credits (reconciliations) and negotiations of fees and monthly payments with the card operators, in order to minimize financial expenses and greater control of the amounts actually received.

Another correlate indicator for commercially measuring the business is to relate turnover by the number of customers in a given period. That is, add up the monthly billing, dividing it by the number of customers. For example, adopting values of the last month, for US\$ 30,000.00 divided by 1,200 customers, we have an indicator equal to “25”. Interpreting such an indicator means that the restaurant earned US\$ 25.00 per customer.

Indicator B: “Little diversification for delivery”. Due to the short term for payment to suppliers, and lack of flexibility to negotiate this proposition, it is necessary to control rigidly the stock turnover, to avoid “holes” in the cash flow and unnecessary expenditures.

Indicator C: “delivery rate”. Consider the gain per quantity of sales (increase delivery) and reduce or eliminate the delivery fee. Fixed costs (rent and payroll) are the commanders of flat-rate net income. Since there are few decisions that can reflect the reduction of these costs, an extra effort is needed to reduce variable costs in order to balance or maximize this margin. It is suggested that competition analysis can collaborate with innovations (new practices) to improve this result. It is concluded that

the establishments are expanding their distribution channels (counter, delivery and similar). The organization, therefore, should concentrate its marketing for the delivery, as it is being done in the competition; in addition, to better diversify its products.

As seen in the Company “C”, in which we can highlight an interesting aspect of this branch, the establishment is subdivided into three businesses: industry (baking), commerce (sale of products) and services (restaurant). This would make life easier for the consumer, who solves multiple items in one place and improves the bakery results. Consider also, for the company, the possibility of opening new sales channels (food trucks) to attend events.

This can generate an additional return and since the itinerant food service is a market trend, this new service can add value to the restaurant brand, and thus attract more customers to the store. The mission of the Company: To offer quality food, with the best flavor and speed. The mission of competitor “B”: use our natural gifts and talents in the preparation of the dishes, serving, in essence, the word to all our friends and clients. The mission of competitor “C”: to offer the best products, with the best possible care within the ethics that governs the food laws.

4.7. Commercial company

The application of the proposed model (see figure 3), with the corresponding metrics, is illustrated below. The value chain based on the end-of-organization activities (mission) originates from suppliers of inputs (vehicles and parts) and ends in the delivery of products to final consumers (customers).

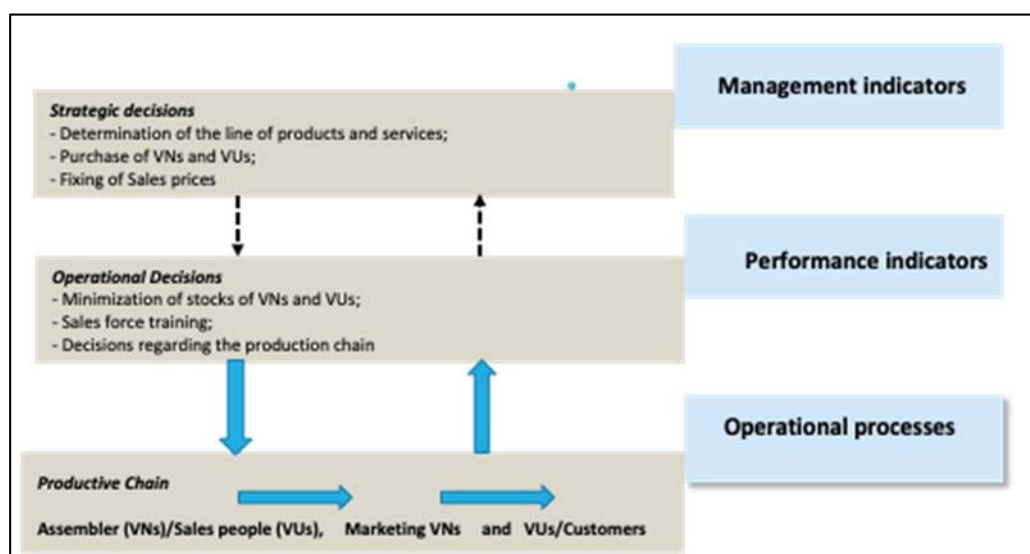


Figure 3. Decisions in commercial organizations
 Source: Authors

For strategic level decisions, which encompass the definition of the product line, purchase of new vehicles (VNs), used vehicles (VUs) and sales prices, are metric proposals such as: financial management indicator (IGF); and economic management indicator (IGE).

When unfavorable, IGF may jeopardize continuity of the company. It is calculated as, *financial turn is igual number of days of disbursements (ndd) divided by number days cashed (ndc)*.

$$\text{IGF} = \text{ndd} : \text{ndc}$$

This indicator, now calculated at "3", means a metric whose ratio is positive from "3" to "1" day, which means that it is a cycle with disbursements with a longer payment term. That is, *financial turnover = 120 days ÷ 40 days = 3*.

Therefore, for each "1" day of receipt of cash the company has "3" days of deadline for payment. In other words, the company manager pays its suppliers on time (30-day payroll and 60-day subject suppliers) and receives from customer sales in cash, given the financial resources of financial agents' credit operations.

The economic management indicator (IGE) represents the turnover of products, calculated by dividing the average number of days of inventory. In the case of CDV, an indicator equivalent to 30 days is used. That is, it is the average time that vehicles are in stock.

For operational decisions, performance indicators are inherent in the form of financial movement; and control of planned and performed.

4.8. Industrial company

Decisions were ranked from the "most important" (strategic) to the "least important" (operational) from the analysis of their mission and productive chain, as shown below (see figure 4).

As productive processes, the sustainable value chain was considered, supported by the adoption of ISO14000 (environmental management), ISO16000 (social responsibility) and ISO18000 (health and safety at work) certification.

As operational decisions, we have:

- a) sizing the sales targets and production;



- b) careful selection of clients, good payers, in order to avoid default;
- c) preservation of stocks at minimum levels, whether raw materials or finished products;
- d) minimizing the need for working capital through the use of outsourced labor, as far as possible, in the company's activities.

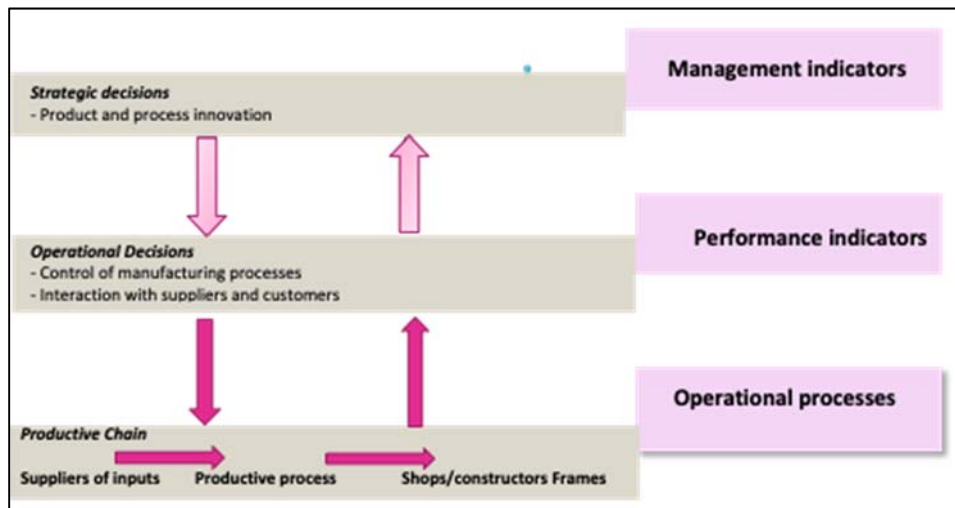


Figure 4: Decisions in industrial organizations
 Source: authors

Its strategic decision is process innovation, and its respective indicators are explained below. The innovation indicator is calculated by relating the "expenditure on innovation in the product in the period", by "turnover in the period". The billing amount (denominator of the ratio) can be replaced by the profit amount of the period. In this way, the percentage of profitability of the period invested in innovation and technology would be measured. It would be a measure of reinvested values in the business of what was noted in the period as "added value."

Another indicator of innovation derived could relate values invested in the creation of the improvement of products (goods or services) and production processes. That is, Indicator of innovation (IOI) is equal to Values in brands and patents in the period (vbpp) divided by Invoicing in the period (IP).

$$IOI = vbpp : ip$$

Analogous analysis to the previous indicator may be applicable and with the replacement possibility of the billing amount of the period with the volume recorded in the deferred asset accounts.

Such an approach can be used to measure expenditure on innovation, relating it to the cost of goods sold (costing of goods/services production). That is, the indicator of innovation in process (IOIP) is equal to values invested in innovation (vii) divided by the total cost of production of the period (tcpp).

$$\text{IOIP} = \text{vii} : \text{tcpp}$$

It is possible to establish metrics that show capitalized values in innovation and technology applied to processes, namely:

innovation indicator (II) is equal to expenditure on product innovation in the period (epip) divided by turnover in the period (tp).

$$\text{II} = \text{epip} : \text{tp}$$

The billing amount (denominator of the ratio) can be replaced by the profit amount of the period. In this way, the percentage of profitability of the period invested in innovation and technology would be measured. It would be a measure of reinvested values in the business of what was noted in the period as "added value."

Similarly, one could calculate the same values spent on innovation in processes, divided by the total number of employees on the shop floor. This would make it possible to analyze the per capita values of labor (own and outsourced) allocated in production. As a period, one can consider the annual, quarterly or even monthly exercise. If it is convenient, the amounts invested in products (goods or services) can be exchanged for the cost of improving processes. This involves or does not involve the introduction of new technologies applied to products and/or production processes.

The analysis in a comparative way can be done, with values before and after the innovation implemented. Whatever the indicator, it is feasible to compare with equivalent metrics available for benchmarking purposes. An example is the innovation indicator, whose benchmark of market excellence is the investments in innovation, on the value of the billing of the period in focus.

In this case, the indicator of each company can be determined by relating: volume of sales (revenues or sales in monetary terms) by the number of employees, with an employment relationship, plus outsourced personnel.

That is, individual company indicator (ICI) is equal to billing volume (bv) divided by number of contributors (nc).

$$\text{ICI} = \text{bv} : \text{nc}$$

An indicator of the companies of the sample was verified (sum of the 40 companies), dividing the volume of billing, by the number of employees, with the employment relationship, plus outsourced. That is, sample indicator (SI) = billing volume (bv) divided by the number of employees (ne).

$$\text{SI} = \text{bv} : \text{ne}$$

The indicator of the companies in the region (sum of the companies affiliated with the class/union), divided by the sales volume (revenues or sales in monetary terms, in Dollar) by the number of employees can be calculated as Region indicator (RI) is equal to Billing volume (bv) divided by Number of employees (ne)

$$\text{RI} = \text{bv} : \text{ne}$$

5. CONCLUSIONS

An attempt was made to establish an understanding of the functioning of organizations in three economic sectors (commercial, industrial and services) with the implementation of the proposed model. This model, of the non-prescriptive type, can be adapted to the singularities of other companies not covered by this work. The results obtained allowed to deduce that the decision-making process is composed of objective and subjective elements that vary according to the management style of its leaders.

Although it is necessary to recognize that each organization has its own characteristics, it becomes feasible to group companies that, generally, have similar characteristics, to enable the operation of blocks of companies and the behavior of competitive forces within each economic block.

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