



Cost management in production chains: reflections on its genesis

Gestión de costos en las cadenas productivas: reflexiones sobre su génesis

Dra. Rosana Meleán-Romero is a professor and researcher at the University of Zulia (Venezuela) (melean_rosana@fces.luz.edu.ve) (<https://orcid.org/0000-0001-8779-738X>)

Dr. Fernando Torres is a professor and researcher at the University of Zulia (Venezuela) (fernando_torres@fces.luz.edu.ve) (<https://orcid.org/0000-0003-3464-7876>)

Abstract

Cost management represents an important tool for decision-making in companies, especially in times characterized by high levels of uncertainty and restrictions. The objective is to analyze cost management from the perspective of production chains. It relies on the review and analysis of scientific documents, from specialized databases, in order to identify aspects that allow us to focus attention not only on internal production relations and their costs; but rather in the analysis of costs incurred in other links in the chain: supply (provision of essential production factors) and marketing and sales (output of products derived from core activity). When companies require focused accounting information for analysis and projections, cost accounting is an alternative. However, changing contexts require combining specific methods, measures and reports on costs with qualitative elements offered by the administration. Both disciplines complement each other and give rise to management accounting or cost management. This, from the conception of production chains, allows more powerful organizations, by assuming an extended vision in cost analysis. Adding and expanding from a comprehensive view, allows to analyze and evaluate costs associated with the supply of inputs, the production and marketing of products or services with a greater direction and support of business decisions.

Resumen

La gestión de costos representa una importante herramienta para la toma de decisiones en empresas, más en épocas caracterizadas por altos niveles de incertidumbre y restricciones. Se precisa como objetivo analizar la gestión de costos desde la perspectiva de las cadenas productivas. Se apoya en la revisión y análisis de documentos científicos, procedentes de bases de datos especializadas, con la finalidad de identificar aspectos que permitan centrar la atención no solo en las relaciones internas de producción y sus costos; sino en el análisis cuantitativo en otros eslabones de la cadena: aprovisionamiento (disposición de factores de producción esenciales) y comercialización y ventas (salida de productos derivados de la actividad medular). Cuando las empresas requieren información contable focalizada para realizar análisis y proyecciones, la contabilidad de costos es una alternativa. Sin embargo, contextos cambiantes, exigen combinar métodos, medidas y reportes específicos sobre costos, con elementos cualitativos ofrecidos por la administración. Ambas disciplinas se complementan y dan surgimiento a la contabilidad de gestión o gestión de costos. Esta desde la concepción de cadenas productivas, permite organizaciones más potentes, al asumir una visión extendida en el análisis de las erogaciones incurridas. Sumar y ampliar desde una visión integral, permite analizar y evaluar costos asociados al aprovisionamiento de insumos, la producción y comercialización de productos o servicios con un mayor direccionamiento y sustento de decisiones empresariales.

Keywords | palabras clave

Cost management, cost planning, costs control, decision making, productive chains, procurement costs, production costs, marketing costs.

Gestión de costos, planificación de costos, control de costos, toma de decisiones, cadenas productivas, costos de aprovisionamiento, costos de producción, costos de comercialización.

Suggested citation: Meleán-Romero, R., and Torres, F. (2018). Cost management in production chains: reflections on its genesis. *Retos Revista de Ciencias de la Administración y Economía*, 11(21), pp. 131-146. <https://doi.org/10.17163/ret.n21.2021.08>

1. Introduction

Organizations require useful information on which to support their decisions. Knowing the profit margin of the business requires having accurate records on the developed processes, that is, quantifying the activities, so that accurate information can be made available from the quantitative level, in which to support or base the decision-making process.

Costs have always been a central element in any management; they are the basis for making accurate calculations and estimates on prices (Fernández, 2000) and profits in companies. Its use at the formal accounting level requires dedication, time, and investments for the maintenance of specific information systems; that offer timely and truthful information, with which to project the business.

Faced with this, the fact of differentiating traditional accounting from management or administrative accounting becomes prevalent in times of collapsed and restricted economies marked by a global pandemic (COVID-19), where the rationalization, efficiency, and adaptation of business resources, is essential.

Organizational measurements and controls become central (Fernández, 2000), expanding biased visions, which limit the analysis to the production area, being important the analysis of costs and their management from an integral perspective that includes primary phases of the production chains: supply, production and marketing, and sales. An expanded comprehensive vision, for an approach and understanding of cost management, integrating disbursements prior to production work, and others incurred once the product or service is available for placement in the markets (Suárez-Tirado, 2013). In some cases, these disbursements are classified as expenses, and in others, they are classified as logistics costs.

From a generic perspective, studies are carried out whose direction focuses on the approach of cost accounting, accumulation systems, management control tools and techniques and practices used to control and reduce costs, decision-making, among other elements of interest on the subject (Ripoll & Urquidi, 2010; Baldini & Casari, 2008a, 2008b; Chacón, 2007; Chacón et al., 2006; Molina, 2003; Morillo, 2002; Valdés, 2016). However, when referring to cost management, the amount of studies is reduced (Salgado-Castillo, 2011; Vélez et al., 2005), even more so, when specific applications are required in particular study sectors (Quintanilla-Ortiz & Díaz-Jiménez, 2019).

Management requires recognition of pure conceptions of administrative and accounting sciences. The former use specific procedures and scientific rigor; and the second, questioned for lack of scientific knowledge to support them; offers methodologies, techniques, and tools (Otálora-Beltrán et al., 2016; Sinisterra-Valencia & Polanco-Izquierdo, 2007; Atehortúa & Mejía, 2018; Abril-Flores & Barrera-Erreyes, 2018; Scoponi et al., 2017) to show quantitative information of interest in the decision-making process.

The combination of qualitative elements (management), with quantitative elements, offer answers to the demands of organizations. From management, consider planning, control, and decision-making, giving input to specific accounting tools with a high level of detail to understand, from a detailed perspective, the organizational environment and its productive chains from the perspective of costs. According to Osorio et al. (2016), a cost management system must be supported not only in quantitative information but also qualitative, so that the administration has more solid criteria to make decisions.

When making precise applications on the subject in the business world, Rodríguez et al. (2007), Rincón (2005), and Castro (2010) establish guidelines for logical analysis,

achieving the application of content related to costs and their management in specific contexts of the organizational field. These approaches allow specifying theoretical-methodological tools, combining traditional and modern cost theory in particular production systems.

Expanding the spectrum of analysis requires having theoretical-documentary support that allows the precision of elements for the analysis of cost management from the perspective of the production chains, reflecting on their genesis and evolution, and on the incorporation of management elements for a comprehensive analysis of them in organizations. Based on this, central elements are needed from the birth of this accounting discipline that derives from administrative praxis, to later disaggregate the essence of the elements that make up the definition of management accounting and specify the foundations that enhance the use of this tool of planning and organizational control. As an innovation of the study, the integrality of the cost analysis is included from the generic conceptions of the production chains, so that an integral cost is managed at the company level, which exceeds the limited vision of the production area in the organizations.

2. Corpus selection criteria

The research is analytical, qualitative, part of a theoretical documentary review carried out in a systematic way. The exploration of internationally recognized databases was established as a search strategy, preferably: Scopus, Redalyc, Dialnet and SciELO, and others with open access. Inclusion and selection criteria of documents were the following: language (Spanish and English), articles related to the proposed topic: management accounting; administrative-accounting; cost accounting, cost management, production lines.

As a result of the first search, generic information related to the variable was obtained, then in a second review some document selection criteria were defined so that pertinent information associated with the defined categories of analysis could be filtered: genesis/evolution of the cost accounting; definition/conceptualization of cost management and its elements, the latter analyzed from the essence of the primary links of the production chains: supply, production, and marketing.

The theoretical information collected was arranged in an analysis matrix in which information on the works was included, considering: year of publication, author, title, language, abstract, central elements developed in the research, main contributions. With the emphasis on making a selection that is more pertinent to the topic to be investigated and more up-to-date, the study variables were defined as management of supply, production, and marketing and sales costs. In this selection, we worked with more interest in the review articles, and those that did not address the study variables were discarded, resulting in more than 70 works related to the subject. The works were analyzed from the decomposition of the whole in its central elements, specifying the indicators described in each category of analysis, for a full understanding of the phenomenon studied, resorting to scientific knowledge to explain the object of knowledge.

3. Results

3.1. Cost management: brief historical reference path

The combination of administrative processes with accounting systems and methods allows the emergence of cost management; a very useful discipline for managers

who do not find sufficient support in the information generated by legal, traditional, or financial accounting (Esteban-Salvador, 1998).

To understand the genesis of cost management, we present a brief historical overview, specifying outstanding events since its birth; being aware that the accounting history and its precepts are delineated from relationships that are gestated and projected between actors who make use of this discipline in their daily work.

For Gutiérrez (2005), the birth of accounting takes place at the end of the 18th century, hand in hand with the industrial revolution; an event that brought great changes at the level of organizations, especially those dedicated to the development of productive work. At that time, the double-entry theory was used as the central basis for analysis and decision. General established legal regulations were assumed and complied with, and information was offered to external entities so that they can know the equity, economic and financial situation of the company, expressed precisely in the published financial statements (Baldini & Casari, 2008a).

As a complement to traditional financial accounting, in the 20th century, cost accounting emerged, aimed at responding to the information and decision-making needs of the industrial organizations of the time. It is important to make appraisals of finished and in-process products and to control what is related to production tasks (González, 2005; Cárdenas et al., 2020). For Montero (2011), the valuation of companies from the identification and quantitative analysis is a fundamental tool in organizational management and development. The information requirements, the performance of measurements, and the determination of returns in order to direct management actions (Rodríguez et al., 2019), become a necessity.

In this context, technological, social, political, and economic demands stand out, with large concentrations of private-financial capital, they generated a direct impact on the administrative and accounting area of organizations, giving rise to the emergence of new information needs (Otálora -Beltrán et al., 2016; Chacón et al., 2006; Valdez-Requena et al., 2017; Salgado-Castillo, 2011; Esteban, 1998) and, therefore, of their satisfaction. It gives way to cost management, as a discipline that, fed by cost accounting (with clearly quantitative elements), uses managerial tools (with qualitative elements) to enhance the complex and demanding process of determination and analysis (Balcázar- Sarmiento et al., 2019; Valdés, 2016). Interpretations of scenarios are included, from the manager's vision, to direct the organization in spaces of high uncertainty.

From the quantitative level, the use of standards to measure the quantity and costs of the resources required in production: labor and materials is promoted (Gutiérrez, 2005). This from the studies of times, movements, methods, sequences, work processes, efficiency, projection, and their rationalization, together with the controls required in the production area of companies, aspects studied by Taylor (1963) from scientific rigor that sustains the science of administration (Gutiérrez, 2005). This combination of quantitative with qualitative allowed a significant evolution in management accounting.

In this way, the cost of materials and labor could be predicted (standard) and compared with the real costs, a situation that prompted at the beginning of the 20th century the development of sophisticated systems for the recording and analysis of real deviations with respect to the estimates. (Gutiérrez, 2005).

In this context, it is recognized that cost accounting manages to overcome the limitations of legal, financial, or traditional accounting (Esteban, 1998). Orderly and systematized knowledge begins to be compiled to support the product costing process (Gutiérrez, 2005). New techniques and work methodologies emerge before the nascent demands of management at the operations level, and in general terms, of companies or organizations. According to Blanco (2003), the idea is to generate information that

demonstrates effectiveness and efficiency at the level of production factors (Montalvo-Cuesta et al., 2020), thus achieving the consolidation of accounting management parallel to legal accounting (Lorino, 1993).

Cost accounting emerges to respond to internal information needs of companies; It offers information related to production operations, basically those related to the transformation of raw materials and inputs into products/services designed to satisfy needs. It enjoys autonomy and is not subject to formal criteria of faithful compliance (Chacón, 2007), that is, this discipline that derives from general accounting (Machado, 2002), defines flexible work methodologies that offer useful information for the decision-making process.

Product of the evolution and demands of the organizations, the simple study in detail of operational tasks, became incomplete. There was a partial vision of the organization (only the operational or workshop area) and general aspects were neglected in other areas of interest of the organization; This situation led to the deployment of more specialized knowledge that included all organizational areas and functions.

A systemic approach is assumed to understand the operational processes of organizations, from the perspective of costs. In other words, it is conceived as an accounting information system that compiles, records, classifies, analyzes, evaluates, and is capable of supporting explanations related to disbursements incurred in the production area of companies (Rincón, 2005). From this, financial and non-financial information is constructed so that management can make decisions and project essential functions such as planning, control, and evaluation of organizational performance. It is possible to provide timely and necessary information to facilitate and improve decision-making at the level of the entire structure of the organization (Cárdenas et al., 2020; Chacón, 2007; Chacón et al., 2006; Hansen & Mowen, 2003, 2007; Mallo et al., 2000; Cárdenas, 2006; Horngren et al., 2007, Atehortúa & Mejía, 2018; Abril-Flores & Barrera-Erreyes, 2018; Scoponi et al., 2017).

Management elements are incorporated, and cost¹ accounting is assumed as an important support for cost management. There is a leap between data recording and basic accounting information, considering qualitative and management elements, to project the situation of the organization and interpret diverse and possible scenarios.

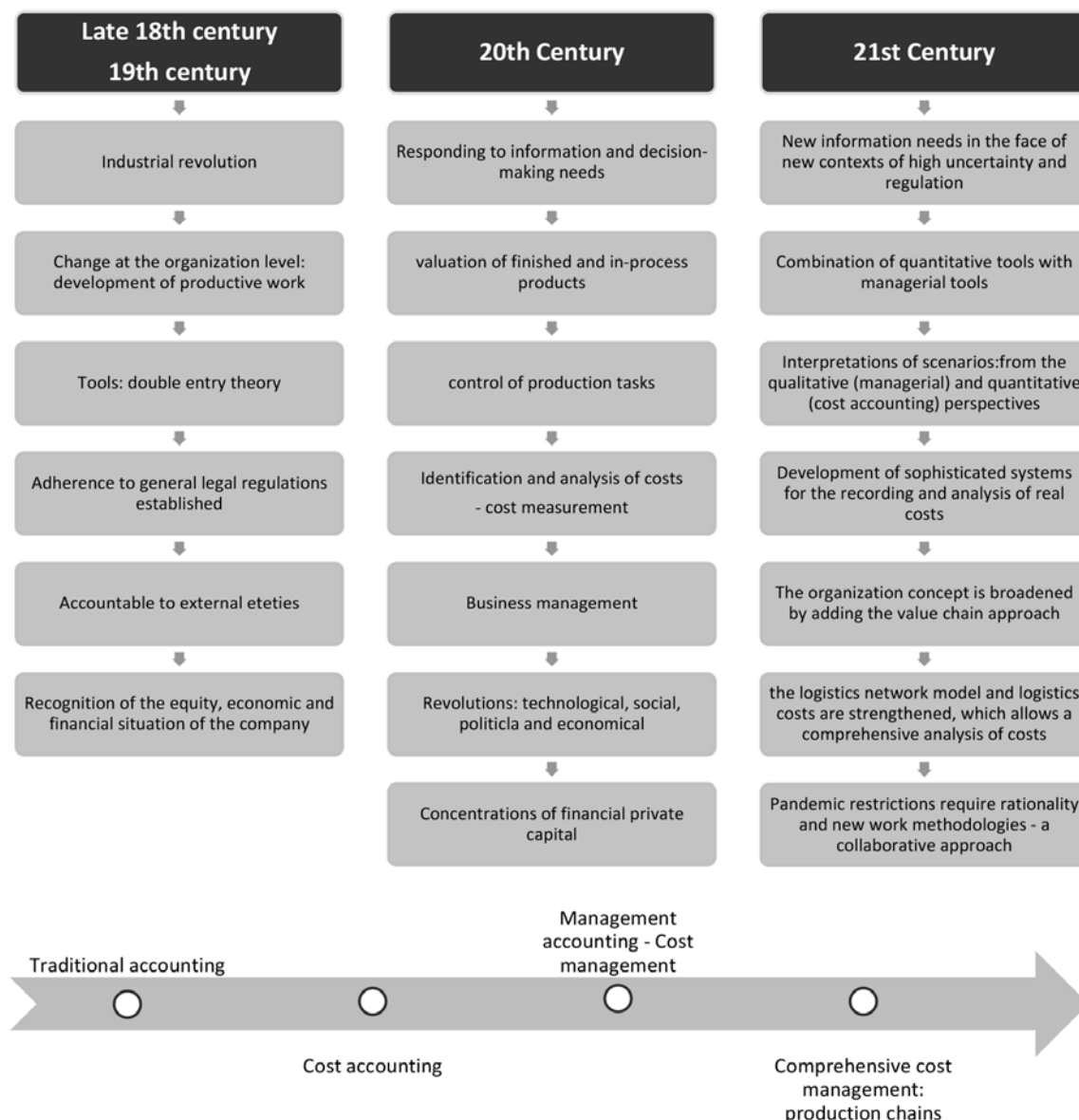
Cost management broadens the organization's analysis vision from the simple determination of cost (Baldini & Casari, 2008a); advances in the definition of new forms of work, achieving independence from traditional cost accounting. Despite this, both cost accounting and management accounting become complementary disciplines with sufficient autonomy to act independently; that is, they are mutually inclusive (Chacón, 2007).

When analyzing the various conceptions that make up the evolution of cost accounting and management accounting (Figure 1), the renovating current proposed by Baldini and Casari (2008a) is assumed. Under this current, each one sets specific objectives, dedicating cost accounting to the identification, capture, measurement, classification, accumulation, and issuance of reports of information related to expenditures; analyzing and interpreting data, so that they are useful in the decision-making process, while management accounting integrates managerial functions such as planning and control (Otálora-Beltrán et al., 2016; Barfield et al., 2005; Gayle, 1999;

1 It goes beyond being highly analytical. It projects, schedules, and allows making decisions based on the total cost of production (Santos, 2008), it does not incorporate planning tools, cost control, and strategic decision-making (Chacón et al., 2006; Horngren et al., 2007).

Chacón, 2007; Chacón et al., 2006; Hansen & Mowen, 2003, 2007; Mallo et al., 2000; Cárdenas, 2006; Horngren et al., 2007), and economic-managerial decision making (Mallo et al., 2000; Chacón et al., 2006) as central processes that guide actions to guide organizations appropriately.

Figure 1. Evolution of management accounting or cost management



Source: Own elaboration, based on the referenced authors.

Cost management constitutes a managerial area of the organization (Gayle, 1999; Chacón, 2007; Chacón et al., 2006; Hansen & Mowen, 2003, 2007; Mallo et al., 2000; Cárdenas, 2006; Horngren et al., 2007), using exhaustive knowledge of organizational processes. Applies tools of cost and management accounting, and control techniques and strategies to generate useful information. It assumes comprehensive analysis perspectives of the activities and critical points of the operations carried out in the company.

Cost management deploys and integrates planning and control processes. On the one hand, the plans are assumed as a reference with precise information, which serves as a basis for control. The first defines objectives and directs the strategies to be fol-

lowed at certain times and allows quantitative estimates of what is to be achieved; the second works to determine deviations on what has been proposed to review, that is, a feedback process is developed and the need to adjust existing plans or develop new strategies is identified (Kast & Rosenzweig, 1988, cited in Chacón, 2007). They are difficult to separate processes within cost management.

Focusing attention on two of the four administrative processes does not mean that it is not necessary to organize resources and the very execution of the developed plans. However, when implementing accounting procedures designed to calculate costs, resources that once consumed become costs (Rodríguez et al., 2012) are organized, which must be subject to adequate management by cost managers, while constituting an important basis for organizational decision making.

In this sense, it is assumed as part of planning and control, accumulation systems, and management techniques and strategies, which allow making decisions from the integrality of the productive chain of organizations, supported by costs. According to Arias and Cano (2020), the strategic implications of management accounting in the development of industrial sectors show important conceptual and analytical participation challenges for decision-making.

It is evident how cost management:

It is of greater depth than the determination of the cost as such, since it consists of making the best decisions to achieve the objectives set on the organizational processes and activities in terms of strategies and compliance with costs, particularly those of production. (Rodríguez et al., 2007, p. 458).

It includes actions, managerial elements, and others associated with markets, expanding its scope of action (Ruschanoff, 2007).

As central objectives, cost management pursues three essential aspects (Cárdenas, 2006): a) provide information resulting from the costs of manufactured items or services provided; b) provide information related to planning and control, and c) present information for adequate management decision-making. For this, adequate knowledge of production costs (raw materials, labor, and indirect manufacturing costs) is essential; being also necessary, for profitability and strategy purposes, the consideration of costs related to design, administration, marketing, and distribution of the product.

Cost management makes expenditures or disbursements that will produce future benefits in the organization —capitalizable expenditures² (Pabón, 2010)— and constitute resources sacrificed to achieve specific objectives (Sinisterra, 2007; García, 2001; Horngren et al., 2007; Hansen & Mowen, 2003, 2007) and guide the decision-making process betting on efficiency, effectiveness (Montalvo-Cuesta et al., 2020; Rincón, 2005) and organizational profitability.

Table 1. Traditional accounting, cost accounting, and cost management

Traditional, legal or financial accounting	Cost accounting	Cost management
--	-----------------	-----------------

2 According to Pabón (2010), not all incurred expenses can be capitalized.

<ul style="list-style-type: none"> • Manages information about the assets of the company. • Shows changes in the financial situation • Results obtained during the financial year. 	<ul style="list-style-type: none"> • Complements traditional accounting. • Responds to information and decision-making needs. • Determine the value of stocks, finished products, and in-process. • It allows controlling the production process. • The information generated must be complemented with management tools and processes. • It is an area of traditional accounting. • Study the inside of organizations. • It has techniques or methods for calculating the cost (projects, processes, or products). • Identify, capture, measure, classify, accumulate and report information on incurred costs. 	<ul style="list-style-type: none"> • It is a managerial area of the organization. • It offers relevant information to support planning, control, and decision-making processes. • Includes management processes. • It considers qualitative elements in the interpretation of the cost data. • It requires information derived from cost accounting. • It uses an in-depth understanding of cost structures.
---	---	--

Source: Own elaboration.

3.2. Planning and cost control: essential elements for its analysis from an extended vision

From an expanded conception, the analysis of cost management is oriented considering fundamental management processes: planning and control (Cárdenas et al., 2020) not only to refer to production or service costs but also to the productive chains that they are part of every organization. According to Orjuela-Castro et al. (2017), accounting management uses incomplete terminology when measuring the costs of logistics processes or the chain, since it does not disaggregate each activity or take into account the links generated in the chains. In the current context, not only is the internal environment of organizations important, but also the knowledge and adequate performance of their chains (Suárez-Tirado, 2013). According to Cárdenas (2006), the information on production costs of manufactured items will not be sufficient for planning and control; a broader vision is required, which includes all stages of the value chain. Cost management must provide the cost of this entire value chain. Nowadays it is not enough to know exclusively the cost of producing to be successful in the market.

The chains approach allows companies and their management to be analyzed from all the activities they carry out, being able to determine which of them has value and which do not. It guides the achievement of sustainable competitive advantages, reduces the costs of activities that do not add value, and focuses on activities on which advantages can be obtained with respect to its competitors, either because they are executed at lower costs or because they are achieved through them differentiating strategies (Baldini & Casari, 2008b; Suárez-Tirado, 2013).

This way of conceiving cost management requires the study not only of the quantitative elements of the production area but also of those related to the supply and marketing area (Suárez-Tirado, 2013), primary links in the entire production chain. Costs represent performance measures that are used in supply chains, express values and data on materials, personnel, supplies, and other resources required in production work, and are useful for the construction of indicators that denote economic efficiency at the level of the different stages and activities that make up the chains (Ferreira et al., 2019). Decisions made at the production level as the core area of the organization affect the planning of inputs or materials (supply) and, therefore, affect the marketing of products (Valdés, 2016).

Cost management-procurement phase

Managing costs in the supply chain of the production chain is a challenge in organizations, even more so when their characteristics correspond to those of small and medium-sized organizations. In this type of organization, the controls implemented at the chain level are scarce and insufficient (Díaz et al., 2008). In order to address the supply chain of the production chain, approaches are assumed that allow defining indicators to measure cost management in this particular phase of the chain (Chase et al., 2000; Krajewski et al., 2013; Drango et al., 2008; Moreno et al., 2011; Bowersox et al., 2007).

In this sense, purchasing decisions, relationships with suppliers, and supply policies (Table 2) are fundamental elements in this phase. Not only are costs important at the level of production or operations of the company, but it is also required to have information on those expenditures associated with the activities of purchase, storage, inventory, claims, replacements by the supplier, inspection, communication, and supplier development. (Carranza & Sabría, 2005).

Table 2. Cost management: procurement phase

Management elements	Elements of analysis at the cost level
Purchase decision Relationship with suppliers Supply policies	Costs related to activities of purchase, storage, transfers, inventories, communication and claims to suppliers, transactions, quality of raw materials and supplies, ordering and supplying inventories

Source: Own elaboration.

It is essential to define supply policies as part of the planning of material requirements in order to establish control guidelines. Policies represent guides that direct actions in companies. In the field of purchases, once defined, they help determine quantities and times and make decisions about when and how much to order, so that suitable inventories can be maintained with bearable costs for companies (Moreno et al., 2011).

The policies assumed for the supply of materials must specify: quantities and costs of materials to be acquired or purchased. The establishment of clear and precise supply policies guarantees continuity in production and efficient management of supplies and materials inventories.

Production cost management

From the production processes, it derives the information required for the analysis and management of production costs (Meleán & Ferrer, 2019), which is why their understanding is required to identify the expenses incurred in them. In this sense, a cost management system supported by work methodologies is necessary to support the development of managerial functions and cost-generating activities in companies (Barfield et al., 2005).

This requires the study of the used accumulation systems, elements of production costs (materials, labor, and indirect costs), and control techniques and strategies (Chase et al., 2000; Krajewski et al., 2013; Fernández et al., 2006; Castro, 2010; Rincón, 2005; Rodríguez et al., 2007; Molina, 2003, 2012; Gayle, 1999; Barfield, 2005; Mallo et al., 2000; Hansen & Mowen, 2003; Baldini & Casari, 2008a, 2008b; Galia, 2007).

The aforementioned authors allowed the establishment of indicators to measure the production cost management dimension: a) production process, b) accumulation systems, c) production costs and d) control techniques and strategies (Table 3).

Table 3. Production cost management: essential elements of analysis

Management elements	Elements of analysis at the cost level
Cost planning: production process	<ul style="list-style-type: none"> Costs associated with generating factors of production
Decisions on: Accumulation systems	Decide on the accumulation system to use depending on the nature of the process Accumulation by: <ul style="list-style-type: none"> Work orders By process Hybrid Activity Based Costing (ABC)
Production costs	Costs of: <ul style="list-style-type: none"> Direct materials Direct labor Indirect production
Decisions on: Cost control techniques and strategies	<ul style="list-style-type: none"> Target cost Just in Time (JIT) Total quality management Continuous improvement Reengineering Stakeholders Empowerment

Source: Own elaboration.

The indicated tools allow the analysis of the value drivers established in the administrative process (planning, control, decision-making, and communication) that have allowed the passage between the simple or straightforward of the determination of costs and financial control, betting on the creation of value (Martínez & Blanco, 2017).

Marketing and distribution cost management

The commercialization processes are constituted in fundamental pillars in the organizations (Quiñónez et al., 2020a), they allow the output of obtained goods, either for their provision in final markets or for their incorporation in other productive chains (Meleán & Velasco, 2017). This process represents activities carried out by organizations to deliver what they want to customers; serve as a guide in the production processes that allow the consolidation of products, desired results, or aspired services that will then be offered by the company (Quiñónez et al., 2020b). Planning, controlling, and making decisions regarding the process of marketing and distribution of products, requires analysis from the perspective of the costs associated with their placement in specific points of the markets.

In this sense, supported by Usgame et al. (2007), Calderón et al. (2012), Gutiérrez (2010), Cuevas et al. (2007), Brambila (2006, cited in Verduzco, 2010), Aponte et al. (2013), Bowerson et al. (2007), Ballou (2004), Horngren et al. (2007) and Rincón (2005), the central elements for the analysis and measurement of the management of marketing and distribution costs are specified in Table 4.

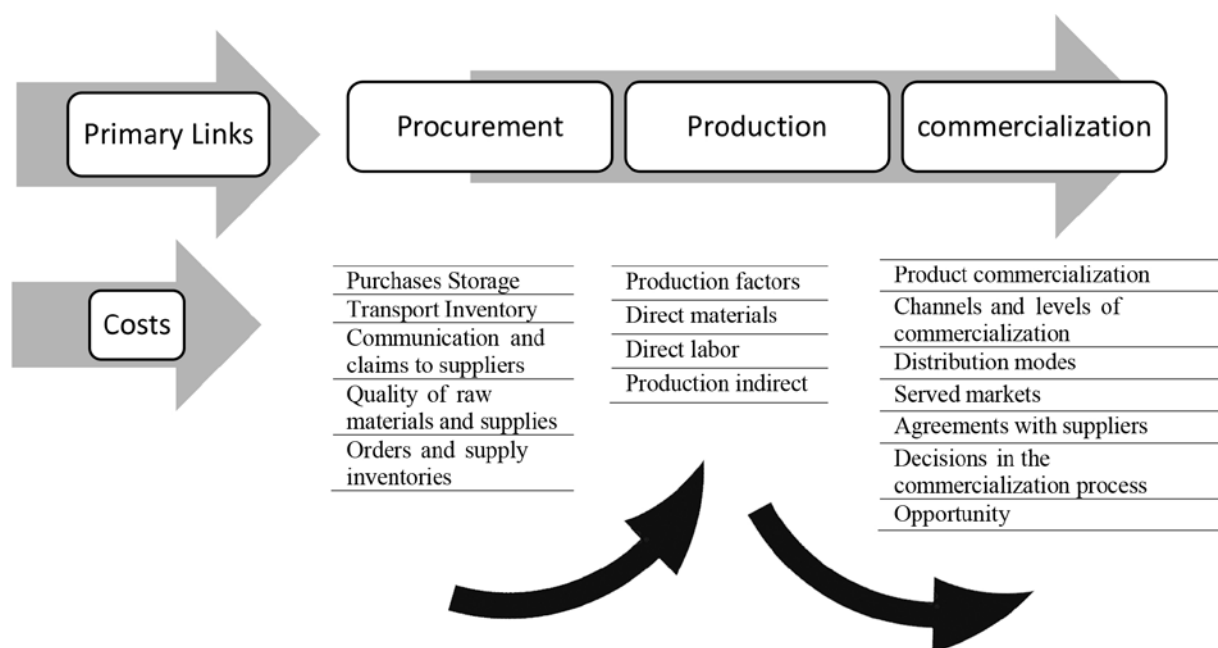
Table 4. Management of marketing and distribution costs: Essential elements

Management elements	Analysis elements
Planning, cost control, decision making	<ul style="list-style-type: none"> • Product marketing costs • Costs associated with marketing channels and levels • Costs associated with the modalities of distribution • Markets served • Costs derived from agreements with distributors • Costs related to decisions in the marketing process • Opportunity cost

Source: own elaboration.

The requirements are aimed at the creation of comprehensive management systems, where the analysis of costs goes far beyond their identification, registration, and classification. They constitute a valuable input to support decision-making and undertake continuous improvement projects in organizations since a full, rational, efficient, and continuous performance of productive operations is required.

For an organization to be profitable in the global economy, it must have full knowledge that its decisions really add value for the interested parties (stakeholders) and for the clients (Rocha de Araujo et al., 2005). Today it is recognized that costs alone are not sufficient to determine profitability; management methods, quality, productive flexibility, and innovation are also important (Flaherty, 1996, cited in Rocha de Araujo et al., 2005), this, despite the fact that strategic management costs contribute significantly to efficiency in the value analysis for stakeholders, in a possible alteration of organizational behavior and minimize the risks for the company (Figure 2).

Figure 2. Costs in the production chain

Source: own elaboration.

4. Discussion and conclusions

Essential aspects of costs and their management are needed from a theoretical perspective. The genesis of cost management is specified, combining administrative or management functions with elements and tools, which allow their organization, registration, classification, and assignment. All this aiming at obtaining timely and pertinent information that allows decisions to be made in organizations of various kinds.

The costs must not only be seen from the conception of the production or service tasks, but also from the integrality that organizational operations imply, whether these are developed in manufacturing instances that imply the transformation of raw materials, or in organizations in the service area, where intangible transformations are required, which also account for their expenditures.

The objective and critical understanding of cost management is essential in these times, characterized by restrictive requirements and environments that demand exhaustive knowledge of disbursements in the work environment. The management of integral conceptions from the point of view of the production chains extends the analysis vision of managers and business people.

Nowadays, not only the internal control of operations is important, but also the recognition of the context ranging from what the costs for the procurement of supplies or raw materials imply for the development of operations, as well as the best and most economical way of providing an outlet for the products that are made or the services that are designed or provided.

Work for the recognition that there is something more than the production or service area. It is important to analyze procurement activities that require disbursements. But also analyze the quantitative elements of the marketing process that requires resources for the placement of products or services in the market.

The understanding of the theoretical foundations on the expenses, and the understanding of the integrality of the management, is fundamental to establish sustainable relationships between subject and object and to consolidate a systemic and integral

vision. The idea is to continue deepening the cost management research line and consolidate bibliometric analyzes complemented with accurate information on diverse organizational realities. The recognition and subsequent application of these elements are central aspects in the analysis of these highly useful tools in times of business restrictions.

Research support and financial support

This article is the result of a research project financed by the Council for Scientific, Humanistic and Technological Development (CONDES), entitled: "Production costs in dual-purpose cattle ranching, Zulia-Venezuela State", attached to the Center for Business Studies from the Faculty of Economic and Social Sciences of the University of Zulia.

References

- Abril-Flores, J.F., & Barrera-Erreyes, H.M. (2018). La contabilidad de gestión: una herramienta para la toma de decisiones empresariales. *Revista Científica Hallazgos*, 3(3), 338-351. <https://bit.ly/2NtsOUA>
- Aponte, F., Bertila, J., González, A.J., González, P., & Ángel, D. (2013). Fases de la cadena de suministro de las empresas avícolas. *Revista Venezolana de Gerencia (RVG)*, 18(64), 685-708. Universidad del Zulia. <https://doi.org/10.37960/revista.v18i64.11171>
- Arias-Suárez, J.D., & Cano-Mejía, V. (2020). Contabilidad de gestión: implicaciones estratégicas en el desarrollo del sector industrial metalmecánico colombiano. *Revista Venezolana de Gerencia (RVG)*, 25(3), 129-149. Número especial, Universidad del Zulia (LUZ). <https://doi.org/10.37960/rvg.v25i3.33358>
- Atehortúa, T., & Mejía, L. (2018). Tipos de decisiones con base en las herramientas de contabilidad de gestión en las empresas de confección. *Contaduría Universidad de Antioquia*, 72, 107-129. <https://doi.org/10.17533/udea.rc.n72a06>
- Balcázar-Sarmiento, B.M., Narváez-Zurita, C.I., & Erazo-Álvarez, J.C. (2019). Herramientas de contabilidad gerencial para la toma de decisiones financieras en la empresa Tapitex M&B Cía. Ltda. de la ciudad de Cuenca. *Visionario Digital*, 3(2.2), 50-80. <https://doi.org/10.33262/visionariodigital.v3i2.2.602>
- Baldini, R.M., & Casari, M.A. (2008a). Los modelos de costeo y la gestión empresarial. Primera parte. *Invenio*, 11(20), 73-89, junio. Universidad del Centro Educativo Latinoamericano. Argentina.
- Baldini, R.M., Casari, M.A. (2008b). Los modelos de costeo y la gestión empresarial. Segunda Parte. *Invenio*, 11(21), 99-113, noviembre. Universidad del Centro Educativo Latinoamericano. Argentina.
- Ballou, R. (2004). *Logística: administración de la cadena de suministro*. 5ta edición. Pearson Educación.
- Barfield, J., Raiborn, C., & Kinney, M. (2005). *Contabilidad de costos. Tradiciones e innovaciones*. 5ta edición. Thomson Editores.
- Bowersox, D., Closs, D., & Cooper, B. (2007). *Administración y logística en la cadena de suministro*. 2da edición. McGraw-Hill.
- Calderón, J., Nahed, J., Sánchez, B., Herrera, O., Aguilar, R., & Parra, M. (2012). Estructura y función de la cadena productiva de carne de bovino en la ganadería ejidal de Tecpatán. *Avances en Investigación Agropecuaria*, 16(2), 45-62. <https://bit.ly/3qQtj9C>
- Cárdenas-Arias, B.E., Guamán-Ochoa, M.M., Sigüenza-Guzmán, L., Segarra, L. (2020). Integración de información de costos para la toma de decisiones en industrias de ensamblaje. *Revista Economía y Política*, 31, Universidad de Cuenca. <https://doi.org/10.25097/rep.n31.2020.07>
- Cárdenas y Nápoles, R.A. (2006). *Administración de costos. Métodos modernos de costos y manufactura*. Editorial McGraw-Hill.
- Carranza, O., & Sabría, F. (2005). *Logística. Mejores prácticas en Latinoamérica, Herramientas de integración y sistemas de información*. Thomson.

- Castro, J.J. (2010). Sistemas de costeo y objeto de costo producto en supermercados. *Actualidad Contable FACES*, 13(21), 2017-2033, julio-diciembre. Universidad de los Andes. <https://bit.ly/2MqnnFk>
- Chacón, G. (2007). La contabilidad de costos, los sistemas de control de gestión y la rentabilidad empresarial. *Actualidad Contable FACES*, 10(15), 29-45, julio-diciembre. <https://bit.ly/2ZK6sk9>
- Chacón, G., Bustos, C., & Rojas, E.S. (2006). Los procesos de producción y la contabilidad de costos. *Actualidad Contable FACES* 9(12), 16-26, enero-junio. <https://bit.ly/3dFptMN>
- Chase, R., Aquilano, N., & Jacobs, R. (2000). *Administración de producción y operaciones*. Octava edición. McGraw-Hill.
- Cuevas-Reyes, V., Espinosa-García, J.A., Flores-Mendiola, A.B., Romero-Santillán, F., Vélez- Izquierdo, A., Jolalpa-Barrera J.L., & Vázquez-Gómez, R. (2007) Diagnóstico de la cadena productiva de leche de vaca en el estado de Hidalgo. *Téc Pecu Méx* 45(1), 25-40. <https://bit.ly/3uwWqkj>
- Díaz-Gómez, H.B., García-Cáceres, R.G., Porcell-Mancilla, N. (2008). Las PyMES: costos en la cadena de abastecimiento. *Revista Escuela de Administración de Negocios*, 63, 5-21, mayo-agosto. Universidad EAN, Bogotá, Colombia. <https://doi.org/10.21158/01208160.n63.2008.438>
- Drango-Serna, M.D., Pérez-Ortega, G., & Arango-Martínez, C.A. (2008). Decisiones en la gerencia de la cadena de suministro. *Avances en Sistemas e Informática*, 5(2), 87-92, junio. Universidad Nacional de Colombia, Colombia. <https://bit.ly/3pThr5j>
- Esteban-Salvador, M.L. (1998). La contabilidad de gestión como herramienta para la toma de decisiones. *Proyecto Social: Revista de Relaciones Laborales*, 6, 85-96. <https://bit.ly/2P0ud5a>
- Fernández, E., Avella, L., & Fernández M. (2006). *Estrategia de producción*. McGraw-Hill Interamericana S.A.
- Fernández, G. (2000). Estrategias para la toma de decisiones sobre costos en un proceso productivo. Toma de decisiones sobre costos en la pesca del atún. *Revista de Ciencias Sociales (RCS)*, VI(3), 389-398, septiembre-diciembre. <https://doi.org/10.31876/rcs.v6i3.25077>
- Ferreira-Sardinha da Costa Neto, L., Pérez-Pravia, M.C., & Vilarinho-Corella, C. (2019). Modelo conceptual de gestión de costos logísticos ambientales en la cadena de suministros de combustibles y lubricantes. *Retos de la Dirección*, 13(1), 188-207. <https://bit.ly/3bQuxvl>
- García, J. (2001). *Contabilidad de costos*. McGraw-Hill Interamericana S.A. 2da Edición.
- Gayle, L. (1999). *Contabilidad y administración de costos*. 6ta edición. McGraw-Hill Interamericana Editores, S.A.
- Gutiérrez-Hidalgo, F. (2005). Evolución histórica de la contabilidad de costes y de gestión (1885-2005). *De Computis Revista Española de Historia de la Contabilidad. Spanish Journal of Accounting History*, 2, junio. <https://doi.org/10.26784/issn.1886-1881.v2i2.229>
- Gutiérrez, A. (2010). "Análisis económico de cadenas agroproductivas". Universidad de los Andes. Presentación realizada en COBIMALPA 2010. San Cristóbal, 27-30 de abril de 2010.
- Hansen, D., & Mowen, M. (2003). *Administración de costos. Contabilidad y control*. 3era Edición. Thompson Learning.
- Hansen, D., & Mowen, M. (2007). *Administración de costos. Contabilidad y control*. Quinta Edición. Thompson Learning.
- Horngren, C., Datar, S., Foster, G. (2007). *Contabilidad de costos. Un enfoque gerencial*. 12da Edición. Editorial Pearson Prentice Hall.
- Krajewski, L., Ritzman, L.P., & Malhotra, M. (2013). *Administración de operaciones. Procesos y cadena de suministro*. 10ma Edición. Pearson Educación. México.
- Lorino, P. (1993). *El control de gestión estratégico. La gestión por actividades*. Alfaomega Marcombo.
- Machado, M. (2002). De la contabilidad de costos al control de gestión. *Contaduría Universidad de Antioquia*, 41, 193-211.
- Mallo, C., Kaplan, R., Meljem, S., & Jiménez, C. (2000). *Contabilidad de costos y estrategia de gestión*. Prentice Hall.
- Martínez-Hernández, R., Blanco-Dopico, M.I (2017). Aproximación a la contabilidad de gestión estratégica: una mirada a su evolución y vigencia. *Cuadernos de Contabilidad*, 18(46).

- <https://doi.org/10.11144/Javeriana.cc18-46.acge>
- Meleán-Romero, R., & Ferrer, M.A. (2019). Gestión de costos de producción en ganadería bovina del Municipio Valmore Rodríguez, Zulia-Venezuela. *Revista de Ciencias Sociales (RCS)*, XXV(4), 250-264, octubre-diciembre. <https://doi.org/10.31876/rcs.v25i4.30531>
- Meleán-Romero, R., Velasco-Fuenmayor, J. (2017). Proceso de comercialización de productos derivados de la ganadería bovina doble propósito. *Revista Negotium*, 13(37), 47-61 Fundación Miguel Unamuno y Jugo. <https://bit.ly/37KkmXG>
- Molina de Paredes, O.R (2003). Nuevas técnicas de control y gestión de costos en búsqueda de la competitividad. *Actualidad Contable FACES*, 6(6), 25-32, enero-junio. <https://bit.ly/3bEOtRF>
- Molina de Paredes, O. (2012). El sistema de acumulación de costos. Su importancia y pertinencia en el sector agrícola merideño. *Actualidad Contable FACES*, 15(24), 42-53, enero-junio. <https://bit.ly/3srAxBo>
- Montalvo-Cuesta, G.E., Narváez-Zurita, C.I., Erazo-Álvarez, J.C. (2020). Análisis de costos de producción como opción estratégica para la toma de decisiones financieras en las empresas públicas de servicios de agua potable. *Revista Científica Dominio de las Ciencias*, 6(1). <https://bit.ly/3pR3kgM>
- Montero, P. (2011). Valoración de empresas. *Retos*, 1, 31-34. <https://doi.org/10.17163/ret.n1.2011.04>
- Moreno-Quintero, R.J., Meleán-Romero, R.A., Bonomie-Sánchez, M.E. (2011). Gestión de inventarios en la industria avícola zuliana. Caso avícola la Rosita. *Agroalimentaria*, 17, 32, 99-112. <https://bit.ly/3pOD9r3>
- Morillo-Moreno, M. (2002). Diseño de sistemas de costeo: fundamentos teóricos. *Actualidad Contable FACES*, 5(5), 7-22, enero-junio. <https://bit.ly/3dKrXtk>
- Orjuela-Castro, J.A., Suárez-Camelo, N., & Chinchilla-Ospina, Y.I. (2017). Costos logísticos y metodologías para el costeo en cadenas de suministro: una revisión de la literatura. *Cuadernos de Contabilidad*, 17(44). <https://doi.org/10.11144/Javeriana.cc17-44.clmc>
- Osorio, J.A., Ripoll, V., Álvarez, J., & Atehortúa, T. (2016). *Sendas de investigación para la contabilidad de gestión inmersa en el fenómeno del agujero negro*. Caminos contables (Primera ed., pp. 124-153). Sello Editorial Centro de Investigaciones y Consultorías CIC.
- Otálora-Beltrán, J.E., Borda-Viloria, J.C., & Escobar-Castillo, A.E. (2016). Sistemas de gestión de costos en las cooperativas de ahorro y crédito de Barranquilla. *Cuadernos de Contabilidad*, 17(44), 349-375. <https://dx.doi.org/10.11144/Javeriana.cc17-44.sgcc>
- Pabón, H. (2010). *Fundamentos de costos*. Editorial Alfaomega Colombiana.
- Quintanilla-Ortiz, D., Díaz-Jiménez, M. (2019). Una revisión conceptual y de aplicación de la contabilidad de gestión en el sector público. *Contaduría Universidad de Antioquia*, 74, 35-57. <https://doi.org/10.17533/udea.rc.n74a02>
- Quiñónez-Cabeza, M.R., Nazareno-Veliz, I.T., Camacho-Marín, R.A., & Cedeño-Coveña, M.V. (2020a). Proceso de comercialización y extracción de productos de manglar, San Lorenzo-Ecuador. *Revista Venezolana de Gerencia (RVG)*, 25(91), 885-899. julio-septiembre. <https://bit.ly/3pMK3wV>
- Quiñónez, O., Castillo, S., Bruno, C., & Oyarvide, R. (2020b). Gestión y comercialización: Pequeñas y medianas empresas de servicios en Ecuador. *Revista de Ciencias Sociales (Ve)*, XXVI(3), 194-206. <https://doi.org/10.31876/rcs.v26i3.33242>
- Rincón, H. (2005). Contabilidad de costos y de gestión en la industria farmacéutica venezolana: estudio de un caso. *Revista Venezolana de Gerencia*, 10(30), 267-287, abril-junio. <https://bit.ly/3qTzLMO>
- Ripoll, V., & Urquidi, A. (2010). Herramientas de contabilidad de gestión utilizadas en la práctica empresarial: una revisión crítica de los trabajos de investigación. *Academia, Revista Latinoamericana de Administración*, (44), 1-20. <https://bit.ly/3aOw2dR>
- Rocha de Araujo, J.A., Pacheco da Costa, R. (2005). Operations strategy and cost management. *JIS-TEM Journal of Information Systems and Technology Management*, 2(3), 291-303. <https://bit.ly/2ZQ00rE>
- Rodríguez-Medina, G., Chávez, J., Rodríguez, C.B., & Chirinos, G.A. (2007) Gestión de costos de producción en el sector metalmecánico de la región zuliana. *Revista de Ciencias Sociales (Ve)*, Vol.

- XIII(3), 455-467, septiembre-diciembre. <https://bit.ly/3qMo0YF>
- Rodríguez-Medina, G., Rodríguez-Castro, B., & Villasmil, A.K. (2012). Costos de producción en explotaciones porcinas de ciclo completo en el Municipio Mara, estado Zulia, Venezuela. *Revista Venezolana de Gerencia*, 17(60). <https://doi.org/10.37960/revista.v17i60.10940>.
- Rodríguez-Quezada, E., Gallegos-Muñoz, C., Palma-Paredes, I., & Rubilar-Muñoz, Á. (2019). Competencias técnicas de costos en el perfil profesional del Contador Auditor Chileno. *Revista Venezolana de Gerencia (RVG)*, 24(86), 507-521. <https://doi.org/10.37960/revista.v24i86.23777>
- Ruschanoff, F. (2007). *La gestión de costos en la nueva economía*. <https://bit.ly/2NVzNWb>
- Salgado-Castillo, J.A. (2011). Tendencias de investigación en contabilidad de gestión en Iberoamérica (1998-2008). *Cuadernos de Contabilidad*, 12(30), 273-305. <https://bit.ly/2ZLueMH>
- Santos, C.L (2008). *Contabilidad de costos. Costos predeterminados, Estimados y estándar*. Tomo I, 2da Edición. Universidad del Zulia. Venezuela.
- Scoponi, L.M., Casarsa, F.A., Schmidt, M.A. (2017). La teoría general del costo y la contabilidad de gestión: una revisión doctrinal. *Revista CEA ~ Centro de Estudios de Administración*, 68-88
- Sinisterra-Valencia, G. (2007). *Contabilidad de costos*. 2da edición. Ecoe Ediciones.
- Sinisterra-Valencia, G., & Polanco-Izquierdo, L.E. (2007). *Contabilidad administrativa*. ECOE Ediciones.
- Suárez-Tirado, J. (2013). Control de gestión en la cadena de valor y los aportes de la contabilidad de gestión: estudio de caso de una compañía colombiana. *Cuadernos de Contabilidad*, 14(34). <https://bit.ly/3bAh3DN>
- Taylor, F.W. (1963). *Principios de la administración científica: Administración industrial y general*. Henri Fayol; prólogo de Hermann Hitz Lender. Herrero Hermanos.
- Usgame-Zubieta, D., Usgame-Zubieta, G., & Valverde-Barbosa, C. (2007). *Agenda productiva de investigación y desarrollo tecnológico para la cadena productiva de la tilapia*. Colombia.
- Valdés-Pérez, D. (2016). Incidencia de las Técnicas de Gestión en la mejora de las decisiones administrativas. *Revista Retos*, 6 (12), julio-diciembre. <https://doi.org/10.17163/ret.n12.2016.05>
- Valdez-Requene, M., Nazareno-Véliz, I.T., & Tóala-Preciado, D. (2017). Una visión general acerca de la contabilidad de gestión. *Dom. Cien.*, 3, 311-323, núm., esp., marzo.
- Vélez-Elorza, M.L., Sánchez-Vázquez, J.M., & Araujo, P. (2005). La influencia del contable de gestión en los programas de cambio organizativo y contable. Evidencia empírica en un entorno organizativo de mejora continua. *Revista Española de Financiación y Contabilidad*, 124, 77-112. <https://bit.ly/3klKCN5>
- Verduzco-Flores, S. (2010). *Análisis de la cadena productiva de la ganadería bovina de doble propósito en la costa oaxaqueña*. (Tesis Doctoral). Colegio de postgraduados. Institución de enseñanza e investigación en ciencias agrícolas. <https://bit.ly/2ZQRYPk>