International Journal of Economics, Commerce and Management
United Kingdom Vol. IV, Issue 10, October 2016
http://ijecm.co.uk/ ISSN 2348 0386

SALES, OPERATIONS AND ECONOMIC INTEGRATED PLANNING FOR SMALL BUSINESSES: SCRIPT SUGGESTION

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Abstract

In search of competitive advantages, modern organizations have sought to deepen the knowledge of their business processes aiming its optimization. The planning has been one of those processes, and large organizations have used the sales, operations and economic integrated planning. The article presents this planning model and proposes a script for its implementation in small businesses. From a research-action, which consisted of the construction of an operational plan for a small food company, from sales, operations and economic integrated planning, it is suggested a working script that can be used in small business of different branches. This planning model is designed to meet the needs of small business managers to plan for short, medium and long term, the essential factors to the adequate competitive positioning of the organization, avoiding unnecessary expenses with technical, computerized and human resources.

Keywords: Integrated Planning, Economic, Sales and Operations Planning, Competitiveness, Strategy, Small Businesses, Integrated Supply Chain Management

INTRODUCTION

Worldwide, social, marketing and business phenomena have determined a business world restructuring. According to Porter (1985), this effect is increased by the spread of information technology and communication. In this highly competitive environment, companies maintain significant investments in equipment, software and personnel, aiming to focus its activities on profitable operations and ensure its sustainability. To achieve the objectives proposed by organizations, it is necessary a well-designed planning that takes into account the characteristics of the business and which is constantly updated, being able to ensure the competitive advantages that allow it to maintain and even increase the market participation of the company products and services.

Since the last decades of the twentieth century, companies have faced competitive markets in a dynamic economic environment, where the demands of customers and markets tend to change quickly. In this context, the companies are constantly challenged to lower their costs and to respond quickly and accurately to the demands of its customers. Meanwhile, trends, such as globalization and outsourcing, generates an increasingly complex supply chain and lead times increasingly long (Karlsson; Sandin, 2011).

Gonçalves, Reis Neto, and Goncalves Filho (2001) observe that the Brazilian and international organizational environment are characterized by an increasing turbulence, and changes happen at an unprecedented speed in history. According to the authors, this dynamic is determined by several factors such as technological evolution, increased competition, economy globalization, deregulation of markets, increased international trade, increased global financial flows, changes in the demographic context, new attitudes and habits of the consumer, new values and dimensions of the social controls, ecological positioning and questioning about the role of organizations in society, among others.

In this context, the planning concept emerges as a resource capable of setting a path able to take the company to achieve its objectives in a rational and safe way. Robbins and Coulter (1998) consider that planning is the intention to do something at some future time; and so that it fulfills its role, it is essential that itis monitored and subject to revisions, making it suitable to the changes processed in the scenario in which the company operates. In the same line of reasoning, Stoner and Freeman (1999) observe that to plan is to determine the path that the company intends to achieve over the course of its existence. Slack, Chambers and Johnston (2002), in turn, consider that planning is the formalization, at present, of what is intended to happen at some point in the future.

In front of the challenges they face and aiming the success, the organizations need to have a clear understanding of their capabilities and the status of their supply chain (SINGH, 2009). The concept of "Supply Chain Management - SCM" emerges, then, in response to these pressures and serves as an integrator of the business processes along the supply chain, coordinating the business units, that was before unlinked from each other (Feng; D'amours; Beauregard, 2008).

In addition to the integration of the supply chain, the companies are gaining operational excellence by implementing, among others, fair production principles (*lean management*), while marketing managers have expanded their understanding about the needs, preferences and responses of the customers (Grimson; Pyke , 2007).

In conjunction with these initiatives, the concept of Sales & Operations - S&OP has grown in importance and is at the forefront of the SCM context, with the most exciting possibilities of success for the future (Grimson; Pyke, 2007).

Singh (2009) states that, in order to compete and be able to respond to the market demands, successful companies have concluded that they need a structured process for creating a realistic sales and operations planning. For this reason, they have focused their attention on the S&OP, a long-term planning integrated process, whose development is based on the need to determine future actions, both for sales and for operations. This long-term planning is considered necessary so that the company has enough reaction time to change its capabilities in the event of change of demands, in increasing or decreasing order (Jonsson; Mattsson, 2009).

The S&OP promotes the link between the strategic plan and the operations of each department, ensuring that the operational plans walk together with the business plans or show the deviations. It is a continuous planning process, characterized by periodic reviews and subjected to frequent adjustments of the company's plans, in the light of the fluctuations in market demands, the availability of internal resources and the supply of external services and materials. This process allows great power of coordination, assisting in the treatment of the complexities and changes (Wallace, 2008).

An interesting factor is the responsibility in the authorship of this planning. In small businesses, the author is usually the entrepreneur. In larger companies, cross-functional teams perform this function. Synchronization is necessary, and the responsibility in the creation and management is distributed between the parties. Companies that have human resources available for the development of S&OP divide the plans in sales, production, supplies, logistics and finances. The larger the company, the greater the amount of data to be processed and more complex is its structure.

At the moment this article is presented, considering the business environment experienced, both internationally and in the Brazilian reality, and the constant changes that occur in the companies and the need to remain competitive, planning gained special relevance. There is the expectation that a company can achieve the purpose for which it is proposed in the competitive scenario of the modernity, when its goals are defined and the actions are implemented, taking into account the internal environment and the characteristics of the external environment.

The main author of this paper conducted a research-action which consisted of the application of the basis for the development of a sales, operations and economic integrated planning in a food sector company .From the obtained results, it was produced a script that can be used by small businesses as a tool to carry out its integrated planning, ensuring them a strategic position before the business scenario.

To get to the definition of this script, the following steps were defined:

- To identify the relevant basis for the construction of a sales, operations and economic integrated planning;
- To check, with the company manager, how such bases become effective in the daily work of this company;
- To build the integrated planning of the company, from the clear definition of steps to be followed in the various stages of the planning implementation.

THEORETICAL FOUNDATION OF THE PROPOSAL

The planning should be considered as the first activity to be held by a person or organization intending to set their goals in an attempt to achieve the desired results.To fulfill their role, they should take into consideration some parameters that facilitate the measurement of planned and carried out actions in order to control the organizational process (Robbins; Coulter, 1998; Stoner; Freeman, 1999).

Slack, Chambers and Johnston (2002) consider that there are the following types of planning: strategic, tactical and operational. The strategic planning is related to the senior management, since it involves important decisions whose impact is felt throughout the structure of the company over a long period of time. The decisions related to the strategic planning refer to the definition of the company mission and the production and marketing strategies, as well as the choice of the distribution channel to be used (Robbins; Coulter, 1998).

To Stoner and Freeman (1999), the tactical planning results from a ramification of the strategic planning. It is related to the objectives and goals of the organization and involves the middle management, being developed in a shorter period than the strategic planning.

The operational planning, according to Robbins and Coulter (1998), is associated with the company's daily routine, being developed in shorter time and adapted to each organization's segments (departments, organization sectors, work groups).To achieve its objectives, the operational planning should contain a schedule of actions to be developed, and needs to be monitored and evaluated constantly, making corrections at every step.

Silva et al. (2008), in an article presented at the XXXII Meeting of ANPAD in 2008, state that when comparing small businesses with smaller and bigger professionalization, those with better planning have higher revenues. Therefore, when planning and making withdrawals with reference to the future scenario, the entrepreneur maximizes the business value in the long term, as it invests part of its income in the company's growth. This advantage is particularly justified in Brazil due to the high interest rates, which impose the preference for funding with equity capital. In the opposite way, the entrepreneur who does not invest efforts in planning, does not know the performance capability of his/her company and, in many cases, make more withdrawals than he/she would if he/she had studied better the future scenario.

The planning practice arises in the organizations in response, on the one hand, to its increasing complexity and, on the other hand, to the increase of the rhythm of the environmental changes. Internally, the planning would provide a common reference to the organization's participants, indicating ways to go, and thereby, allowing a better use of the resources. Externally, the planning would fulfill the function of guiding the actions and efforts of the organization in its search for opportunities, markets, public and its own survival. A greater or smaller complexity and importance of the planning process in an organization would be, therefore, associated with the degree of turbulence of the environment in which it operates and to the corresponding internal complexity (Gonçalves; Reis Neto; Gonçalves Filho, 2001).

Oliveira, Terence and Escrivão Filho (2008), in an article also presented at the XXXII Meeting of ANPAD in 2008, state that even considering structural differences between economic sectors of small businesses, the formalization of the planning does not entail sales growth. However, the knowledge of the planning is appointed by entrepreneurs as of paramount importance. The challenge is not only in formalizing the planning, but in linking such planning to the administrative practice.

For the analysis of the integrated planning, expert authors about the subject of the study were consulted, as Welsch (1983), Robinson (2006) and Palmatier, Crum and Wight (2013).

During the last forty years, the sales and operations planning evolved from the basics of production planning in the 1970's, for the management of demands, supplies and inventory of the 1980s and 1990s. These advances led the S&OP to a process of integrated business management interconnected with the strategic planning in the late 1990s. From 2000 to 2010, an additional effort by the companies to collaborate more effectively with customers, helped to improve the visibility of the demand. Such efforts are often called *Supply Chain Management* or

Integrated Supply Chain Management. Processes previously restricted to the industry sector, such as collaborative planning, forecasting and restocking, were gradually integrated into a collaborative effort for the business environment in general (Palmatier; Crum; Wight, 2013).

According to Palmatier, Crum and Wight (2013), well-structured organizations use in their sales and operations activities some form of integration. Also according to them, the strategic business plan is cyclically updated from the review of the parameters that affect its efficiency (*performance*). Such parameters are the *demand*, the *supplies* and the *product management*, culminating in the *financial result* that updates the *business management*. The *reconciliation* is a recursive process where those responsible for each of the indicated parameters provide their position on their area and their plans from the entries of the other components, until the time that all reach an agreement and commit themselves to the achieved plan. When the reconciliations reach the end, an agreement is formalized in the form of a *latest review / recommendation*. The organizations generally perform this process monthly.

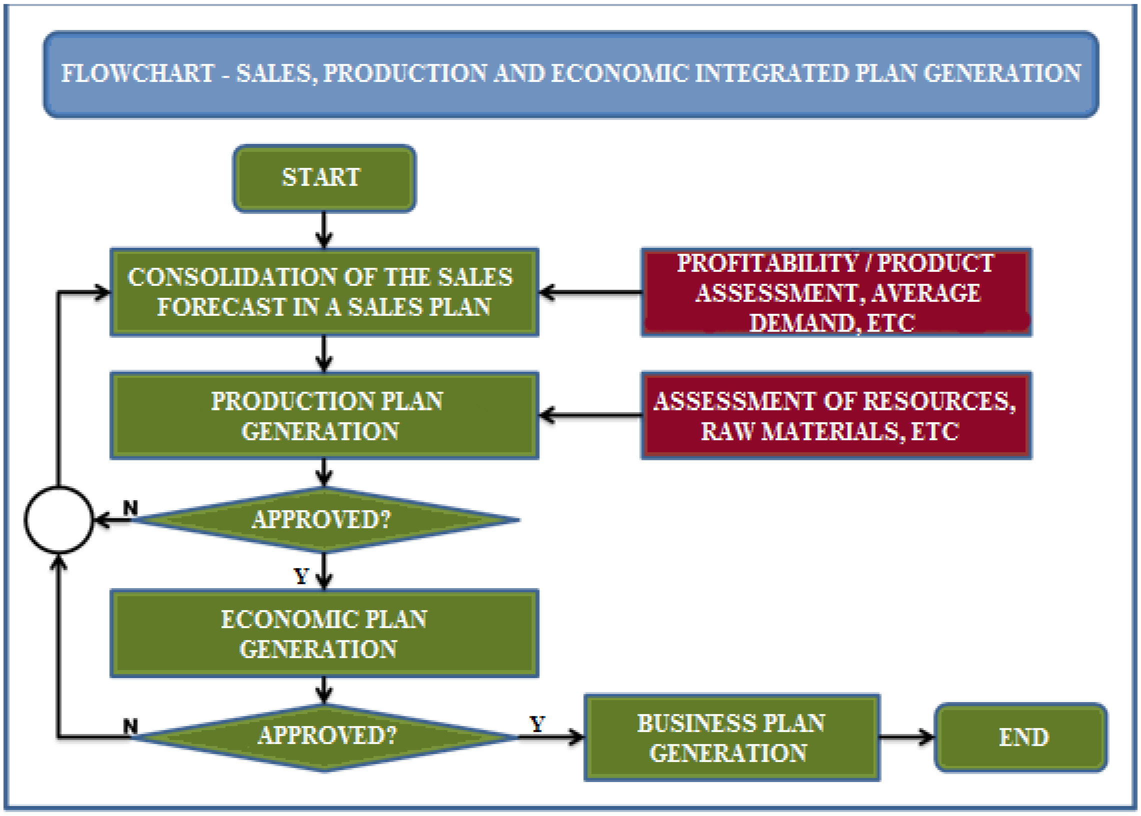
According to Robinson (2006), the sales and operations plan (S&OP) is essentially the last agreed integrated plan and contains the respective production plan to achieve this goal. This integrated plan balances the demand expectations with what is feasible to be achieved by the supply capacity and has three main functions: 1) a mechanism by which management is able to look to the future and assess whether the company has sufficient critical resources to meet the expected demand. Critical resources are those that can limit the company's ability to accept sales orders now or in the future; 2) the plan is used to drive the raw materials planning and the capacity planning through the production master planning process and, in turn, establishes the amount of each product that is available to meet customer demands. It also allows comparing the actual production with the planned production; 3) the plan should be the main mechanism to verify if the company's financial performance is in line with the agreed budget. The understanding of the monthly variation is a fundamental responsibility of the management. It is a step by which the various sectors start to work as a team, submitting all emerging issues to the analysis.

There are two *key inputs* for the plan generation. The first is the *sales forecast*. The second is a set of suggestions made by the manufacturing areas to meet the sales forecast, developed based on product families, month by month (Robinson, 2006):

- Sales plan generation;
- Production plan generation based on the sales plan;
- Successive evaluations of the plan in partnership meetings until consensus;
- Final agreement to the plan at the sales and operations meeting.

Figure 1 illustrates the recursive action of the discussions in the search for agreement between the parties involved.

Figure 1: Sales, production and economic integrated plan generation cycle



Subtitle: N (No); Y (Yes)

Source: Elaborated by the authors

According to Robinson (2006), the long-term solution to the problem of sales forecast is to increase the flexibility and reduce the times of production / manufacturing (lead times), in the extent to which it is able to react more quickly to the customer service.

Companies that do not usually make a sales forecast will have a proliferation of disparate departmental forecasts, and these forecasts certainly will be all different. If there isn't a formal sales forecast, the middle managers will make their own projections. The supply team will buy what they believe to be necessary. The production team will maintain the devices they believe they need and they even will buy new equipment based on their sectorial projections. People will be recruited based on beliefs of the human resources team. Budgets will be made based on some kind of financial forecasting, and so on. Differently, with a consolidated sales plan, all the others sectorial plans will be developed based on the same projection. Thus, the company will have all the resources, personnel, equipment, materials and capital coordinate to meet the best estimate of what is assumed that will happen. As the estimates change, the plans are adjusted synchronously to meet the new circumstances (Robinson, 2006).

The most sensitive sector to coordinate the forecasting process is the sales and / or marketing department. The planning process moves from the perception that the fundamental reason for the forecast is to improve the customer service by aligning all resources to meet the best estimate of what and when customers will want (Robinson, 2006).

According to Robinson (2006), after generating the sales plan, consideration should be given on how to produce what was planned. At this stage there should not be any more debate about the validity of the sales forecast.

The basis for the generation of the sales and operations plan is the set of the latest productivity values achieved for each product families. If this production level was obtained by working the way the company would like to plan the work in the future, it represents the demonstrated ability and, thus, can be used as a solid basis for future plans. Alternatively, if the company wants a plan on the basis of different circumstances than those achieved in the past, it has to estimate a production level that is reliable. The plan should never be based on illusions or some estimate of what is imagined that manufacturing resources can produce.

The key to the validation of the sales and operations plan, from the perspective of resources, lies in the fact that it consider only the critical resources and estimate how much of these resources will be consumed in the production for each unit of the final product. The estimated use of critical resources in each product family or at the level of the final product is known as *rough cut capacity planning* (Robinson, 2006).

Still according to Robinson (2006), the first step in the generation of the *rough cut capacity planning* is to define which resources are critical. A resource is classified as critical when it can limit the receipt of orders. It could be a device or part of it, a production line or people. Any bottleneck is inevitably a critical resource. The personnel resource is almost always critical because an organization rarely has too many people available.
The definition of the global capacity should determine the critical work centers, validate the manufacturing system against the load and enable the elaboration of adjustments in the planning.

Basically, the sales management is directly responsible for planning an optimal balance between the sales budget, the advertising budget and the sales expenses budget. Consequently, the planning and control of the results face the planning and control of sales, advertising and sales expenses as a single basic process, instead of three separate processes. This logical approach is due to the considerations and the interrelations of the three processes. The sales budget is solidly based on the promotional plan. The amount of costs that may be incurred for a given volume of sales is limited. The practice used by some companies of begin with a sales projection and then estimate a fixed percentage of these sales as overhead and other fixed percentage for advertising expenses, represents a negative approach from the perspective of the planning. The good practice is to prepare simultaneously the plans of marketing, sales promotion and sales expenses, preliminarily. Only after the release of this data, it can consolidate them into only one budget (Welsch, 1983).

The financial information must then be inserted in a simplified Net Profit Statement, which contains all the examined assessments and will be used as a guide to expected results for the integrated planning.

For Ludícibus, Martins and Gelbcke (2000, p. 290), the Net Profit Statement "is the presentation, in summary form, of the operations performed by the company during the accounting year", and aims to highlight the net profit for the period. It is structured starting from the income and deducting the costs and expenses related to the company activities.

Another appropriate definition for the process is the EBITDA (Earnings Before Interest, Taxes, Depreciation / Depletion and Amortization), which can be defined as a financial measure used in the market and it is related to the restricted concept of operating cash flow of the company, ascertained before the calculation of the income tax. According to Vasconcelos (2002, p. 41): The EBITDA includes all operational components and, thus, comprises most of the revenues earned and expenses incurred, which highlights the measure in relation to the Net Profit in the visualization of the business operating performance, being an important indicator of financial performance.

For Assaf Neto (2001, p 207.): The EBITDA reveals, in essence, the genuine operational capability of cash generation of a company, i.e., its financial efficiency determined by the adopted operational strategies.

Thus, the higher the index, the more efficient the cash generation from operations, and better will be the ability to pay the owners of capital and investments demonstrated by the company. The EBITDA is calculated by data obtained in the Net Profit Statement as described below:

Sales Revenue - Cost Of Goods Sold

=Gross Profit

- Operating Expenses with Sales / General / Administrative

= EBITDA Or adjusted Operating Income

- Structural Expenses (Depreciation / Depletion / Amortization)

= Operating Profit before Taxes

(+/-)Financial Expenses

= Profit before Taxes

- Tax Provision

= Net Profit

According to Vasconcelos (2002), the reading provided by EBITDA analysis supports a number of decisions, namely:

- Changes in the financial policy of the company;
- Visualization of the coverage level of financial expenses;
- Monitoring of the undertaken financial strategies;

In addition:

- It can be used as a financial benchmark;
- It serves as basis for companies assessment, since it demonstrates the viability of the business (efficiency and productivity thermometer);
- It can be used as a basis for payment of bonuses to employees;
- It is a globalized measure (Vasconcelos, 2002).

MODEL DEVELOPMENT

The visualization of the operational scenario and the expected results should consider the short (1 month), medium (3 months) and long term (3 years) time spectrum. After the assessment of the results operationally obtained compared to the planned, the company's managers must decide between the continuation of the defined strategy and the change of the initial premises constitutive of the planning with the study of new scenarios and, in this case, replenish the model.

Contemplating the time spectrum of a month by way of simplification of procedures and accessibility for the small business owner, it is considered, additionally, for the same purposes, the following assumptions for the planning generation process:

- All products are purchased from registered suppliers and resold in the company. Therefore, there is no operational base for the production plan generation. The planning is very simplified in these boundary conditions.
- It is considered, for purposes of simplification that the lead times for deliveries are paltry, facilitating the input purchases planning.

To develop the model, the following steps detailed below with some examples of the generated model, were followed:

- Creation of product families and disposal of raw materials;

- Synthesis and analysis of the history;
- Assessment of the financial contribution of each product family;
- Sales planning;
- Expenses planning;
- Presentation of the Net Profit Statement

Creation of Product Families and Disposal of Raw Materials

All products must be evaluated by managers from the mapping of their common characteristics and should be grouped in families.

After defining the families, it should be made a list of the suppliers with their respective percentages, defined according to the participation in each family.

It must be ensured that each supplier conduct the percentage of their products for the respective families. These values must be estimated from the calculation of the average allocation of the products acquired in recent months, of which the company has data, to the sales volume of the respective family.

Synthesis and Analysis of the History

All companies that have been operating for some time have a history of sales and operations. To create a sales plan, it is important to look at the past and understand the behavior of the sales and results, allowing the team to make the best estimate for the future.

Another parameter that must be analyzed in detail is the history of purchases by supplier, which serves as a base for the composition of the apportionment of supply, according to the products spreadsheet.

Then, it should be developed a spreadsheet containing the apportionment of supply of each supplier, according to the product family. This apportionment should already be set on the spreadsheet "families x suppliers" and will be calculated from the absolute values of purchases by supplier.

After systematizing the data of suppliers and purchases, it is necessary to process the sales data. Then, after classify all products in families and systematize the history of sales and purchases from these families, it is possible to evaluate the individual contribution of each family and develop the planning module.

Assessment of the Financial Contribution of each Product Family

At this point of the development, after systematize the apportionment of supplier values by product family, the sales values per supplier for each product family, and the purchase values by the same apportionment, it is possible to calculate some important parameters for the analysis of the history and the consequent business behavior: the average unit price (calculated from the unit values of sales of all the family component product), the average unit cost and the gross contribution of each product family in the composition of the income (unit gross margin).

Sales Planning

With the way discussed here, which must be synthesized in spreadsheets, with organized and outlined history and the behavior of each product family in the composition of the known result, it is possible to build the integrated planning module from the product family of the primary and secondary groups, thus allowing a better view of the behavior. The main parameters for the case of the studied company are the quantity, the unit price and the sale.

From the analysis of the synthesized historical values, it is possible to simulate the behavior of the business in the future, taking into account the prediction of values for the future months.

The data should then be consolidated and they must be available so that the company's managers can perform predictions based on actual sales applied to the future, generating the estimates.

By making sales forecasts, the company can check the financial results and "graduate" the focus on products with better economic behavior in order to maximize the result.

Expenses Planning

As seen so far, the response to predictions turned into values that can be compared with the expenses, generating the expected result. The entire process should be interactive and self-explanatory so that the various planning actors understand the changes made and immediately visualize the impact of the projections.

Presentation of the Net Profit Statement

The last part of the integrated planning process is the consolidation of the sales forecasts made by the team in a simplified Net Profit Statement which, from the parameters already established of prices, costs, product families and apportionments, presents the expected financial outcome of the process.

FINAL CONSIDERATIONS

Planning is the intention to accomplish something at some future time; and so that it fulfills its role, it is essential that it is monitored and subject to revisions, making it suitable to changes processed in the scenario where the company operates. The main objective of this study was to identify and apply the foundations for the development of a sales, operations and economic integrated planning in a small company of the food sector, in order to offer to the same size businesses a strategic positioning tool in the face of the changes of the business scenario.

It can be observed that the micro and small businesses managers apply, in an unstructured way, their internal expectations of sales and results in their daily operations. When using the analysis of the business empirical data, added to a model of consolidation and integration of these data and processes, it is possible to guide the business of small and medium enterprises.

Sequential meetings aim to convey the basic knowledge of the integrated planning and create a culture of critical analysis related to the need to plan. After discussion and alignment of the concepts, the questionnaire analysis shows the perception of the need for integrated planning, of the concatenation of the various subjects and the natural and logical conduction of the sales, production and economic data, in a logical context.

The integrated planning, conducted as exposed, certainly provides the view that by modifying the sales demand, the economic result changes from the choice of each scenario. The result changes from a "surprise" at the end of each analysis period to a very palpable parameter in the present and future strategy.

For further studies, the author suggests the research in the literature practices of some or all applications of the concepts discussed and sequenced in this article. Going deeper in those concepts, the researcher will be able to increase its competitiveness vision. This becomes possible by observing these concepts being applied in different areas and analyzing their empirical answers.

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