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"Dr. Cana - The Business Plan for an Agriculture Consultancy Idea in Brazil"

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DR.CANA: AN AGRICULTURE CONSULTING IDEA IN BRAZIL

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Summary

This master project has the objective to develop a Business Plan which will provide the launch of a consulting firm that delivers services in the São Paulo state, Brazil. The sugarcane consulting sector has become highly technological in this area, and a lack of responsible and fast services, focus on people´s satisfaction is evidenced. Therefore, based on a ground study, consultants and managers expertise, we quickly realized that agriculture firms look alike and propose no easy requesting for clients, as well as, no organized services´ catalog. There is an opportunity for consulting focus in the main crop produced in the region, which is sugarcane. After the analyses of the current market on a macro context, implementation of a survey for the main agriculture consulting users and hence the founders' careful analysis, the launch of the first Sugarcane specialized firm in Brazil took place. Sugarcane is the main crop produced in Brazil regarding monetary turnover, and a consulting focus only on its chain is the perfect way for quicker services to enterprises and farmers. Associated with the flexibility when requesting the services and following up with your account via APP or website, Dr.Cana will be able to achieve also the region and fulfill the need for a variety of clients. We show in this business plan that consulting platforms are low capital requirement business that becomes quickly profitable. According to our forecasts, Dr.Cana should break even after the first year of operations, reaching a profit of R$509,203.20.

Keywords:

1) Business Plan

2) Agriculture Consulting

3) Sugarcane

4) Product launching

JEL Codes: M13-New Firms

L26- Entrepreneurship

Sumário

Esta tese de mestrado tem como objetivo desenvolver um Plano de Negócio que proporcionará o lançamento de uma consultoria prestadora de serviços no estado de São Paulo, Brasil. O setor de consultoria de cana-de-açúcar tornou-se altamente tecnológico nessa área, sendo evidenciada a falta de serviços responsáveis, rápidos e com foco na satisfação dos clientes. Portanto, com base em um estudo de campo, informações de consultores e gerentes experientes da firma, rapidamente percebeu-se que as empresas de consultoria agrícolas não propõem formas simples e eficazes na contratação dos serviços, assim como nenhum catálogo de serviços organizado. Há uma oportunidade de consultoria focada na principal cultura produzida nesta região, que é a cana-de-açúcar. Após a análise do mercado atual em um contexto macro e implementação de uma pesquisa para os principais usuários de consultoria agrícola, o lançamento da primeira empresa de consultoria especializada em cana-de-açúcar no Brasil aconteceu. A cana-de-açúcar é a principal cultura produzida no Brasil considerando o rendimento por área produzida, e sendo assim, desenvolvendo uma empresa focada na consultoria apenas em sua cadeia é o caminho perfeito para serviços mais rápidos para empresas e agricultores do setor sucro-energético. Também associamos o Dr.Cana com a flexibilidade ao solicitar os serviços e acompanhar sua conta via APP ou site, que poderá alcançar futuramente outras regiões no país e atender uma variedade de clientes. Mostramos neste plano de negócio que as plataformas de consultoria são negócios de baixa exigência de capital e se tornam rapidamente lucrativas. De acordo com nossas projeções, o Dr.Cana deve se recuperar após o primeiro ano de operação, atingindo um lucro de R$509.203,20.

Palavras-chave:

1) Plano de Negócio

2) Consultoria Agrícola

3) Cana de açúcar

4) Lançamento de produtos

Códigos JEL: M13- Firmas novas

L26- Empreendedorismo

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Glossary

2G – second generation ethanol

ABMR - Associação Brasileira de Marketing Rural e Agronegócio (Brazilian Association of Rural Marketing and Agribusiness)

APP- application

ATR - total reducing sugars

B2B – business to business

B2C- business to customer

BENRI- Biomass Energy Reserach Institute

BNDES - Banco Nacional de Desenvolvimento Econômico e Social (National Bank for Economic and Social Development)

Brix - amount of soluble solids in a solution

CATI - Coordenadoria de Assistência Técnica Integral (Coordination of Integral Technical Assistance)

CBCA- Centro Brasileiro da Construção em Aço (Brazilian Steel Construction Center)

CCIR - Certificado de Cadastro de Imóvel Rural (Rural Property Registration Certificate)

CNA - Confederação da Agricultura e Pecuária do Brasil (Confederation of Agriculture and Livestock of Brazil)

CNPJ - Cadastro Nacional da Pessoa Jurídica (National Register of Legal Entities)

COFINS - Contribuição para o Financiamento da Seguridade Social (Contribution to Social Security Financing)

CSLL - Contribuição Social sobre o Lucro Líquido (Social Contribution on Net Income)

CSS - cascading style sheets

CTC - Centro de Tecnologia Canavieira (Sugarcane Technology Center)

Embrapa - Empresa Brasileira de Pesquisa Agropecuária (Brazilian Agricultural Research Corporation)

ERP- Enterprise Resource Planning

FAPESP - Fundação de Amparo à Pesquisa do Estado de São Paulo (Foundation for Research Support of the São Paulo State)

FMI- International Monetary Fund

GDP - Gross domestic product

GPS - Global Positioning System

Gwh - gigawatt-hour

HTML - Hypertext Markup Language

IBCO - Instituto Brasileiro dos Consultores de Organização (Brazilian Institute of Organizational Consultants)

IBGE - Instituto Brasileiro de Geografia e Estatística (Brazilian Institute of Geography and Statistics)

IEA - Institute of Agricultural Economics

IFDM - FIRJAN Municipal Development Index

IJFA- International Journal of Finance and Accounting

INCRA - Instituto Nacional de Colonização e Reforma Agrária (National Institute of Colonization and Agrarian Reform)

INSS - Instituto Nacional do Seguro Social (National Institute of Social Security)

IPCA - Índice Nacional de Preços ao Consumidor Amplo (Broad National Consumer Price Index)

IRLP - Imposto de Renda da Pessoa Jurídica (Corporate Income Tax)

IRS - Receita Federal do Brasil (Brazilian´s federal income body)

ISS - service tax of any kind (municipal)

ITR- Imposto Território Rural (Rural Territory Tax)

MME- Ministério de Minas e Energia (Ministry of Mines and Energy)

PE- Pernambuco state

PIS – Programa de Integração Social (Social Integration Program)

Pol – percentage of sucrose in a solution of sugars

RJ- Rio de Janeiro state

Selic - Brazilian basic interest rate

SME - small and medium-sized enterprise

SP - São Paulo state

UNDP- United Nations Development Program

USDA – United States Department of Agriculture

USITC - United States International Trade Commission

WTO- The World Trade Organization

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1. Executive Summary

Dr.Cana is an agriculture firm that will offer consulting services to all the sugarcane chain in the countryside of São Paulo state, Brazil, at any time of the year. Our first strategy is to gain a competitive advantage by being a client-focused platform, an easy way of requesting services and a provider of continuous support for the agribusiness, from a long-term perspective. Our price is competitive, based on our competitors in the national agriculture consulting industry.

Brazil is the main sugarcane producer in the world, in 2015 production reached 748 million tons, and the state of SP contributed for 58% of that (IBGE, 2018). This state is the pioneer of the large-scale crop processing as well as, the development of new technologies, becoming the national center for R&D to many institutions. Thus, the sugarcane consulting in this region has become highly qualified by achieving an optimum on the production operations. Dr.Cana idea is to keep on track any services related to this chain, providing precision and agility, with a client focusing for agriculture.

For the first two years we will target only the sugarcane sector, but as many of our services can apply to different crops and general assistance, after the third year of existence, we aim to expand the firm. Dr.Cana´s first-year profit is predicted to be R$509,203.20 with the initial capital requirement of R$68,000.00. There are none consulting firms similar to ours regarding organized services catalog and acknowledgment about the sugarcane industry necessities. We evidence a lack of consulting services currently operated by sector firms.

Consultants are our services providers, guided by the customer expertise team and Dr.Cana´ managers. At the moment a service is required via APP or website, also a visit to the client is scheduled on a day and time, assuming that the client already acquired one of the subscription plans, MASTER or GOLD.

We need to establish brand awareness in the first year and maintain the Dr.Cana recognition in the sector regarding our target clients, which are Mill Groups, Multinationals, Cooperatives and Farmers, for that a specialized marketing firm will be contracted. Future development could involve not only opening our firm to different crops but also operating services in any part of the world, which produces or processes the sugarcane crop.

2. Sumário Executivo

O Dr.Cana é uma empresa com enfoque agrícola que oferecerá serviços de consultoria para toda a cadeia produtiva de cana-de-açúcar no interior do estado de São Paulo, Brasil, em qualquer época do ano. Nossa primeira estratégia é obter uma vantagem competitiva por ser uma plataforma focada no cliente, que proporciona uma maneira fácil de solicitar serviços e é um provedor de suporte contínuo para o negócio do cliente, a partir de uma perspectiva de longo prazo. Nosso preço é competitivo, baseado em nossos concorrentes da indústria de consultoria agrícola nacional.

O Brasil é o principal produtor de cana-de-açúcar do mundo, em 2015 a produção atingiu 748 milhões de toneladas, e o estado de SP contribuiu com 58% desse total (IBGE, 2018). Este estado é o pioneiro do processamento de culturas em grande escala, bem como o desenvolvimento de novas tecnologias, tornando-se o centro nacional de I&D para muitas instituições. Assim, a consultoria canavieira nesta região tornou-se altamente qualificada, obtendo um ótimo desempenho nas operações de produção. A idéia do Dr.Cana é acompanhar todos os serviços relacionados a essa cadeia, proporcionando precisão e agilidade, enquanto mantém o foco no cliente agrícola.

Durante os dois primeiros anos estaremos focados apenas no setor de cana-de-açúcar, mas como muitos de nossos serviços podem se aplicar a diferentes culturas e assistência geral, após o terceiro ano de existência, pretendemos expandir a empresa. O lucro do primeiro ano do Dr.Cana está previsto em R$509.203,20, com a exigência inicial de capital de R$ 68.000,00. Não existem firmas de consultoria semelhantes às nossas em relação ao catálogo de serviços organizado, e reconhecimento das necessidades da indústria de cana-de-açúcar. Evidenciamos uma falta de serviços de consultoria que operam atualmente pelas empresas do setor.

Os consultores são nossos prestadores de serviços, orientados pela equipe de especialistas em atendimento ao cliente e pelos gerentes Dr.Cana. No momento em que o serviço é requisitado via APP ou site, uma visita é agendada em um dia e hora, supondo que o cliente já tenha adquirido um plano de assinatura MASTER ou GOLD.

Precisamos estabelecer reconhecimento de marca no primeiro ano e manter a importância do Dr.Cana no setor em relação aos nossos clientes-alvo, que são Usinas processadoras , Multinacionais, Cooperativas e Fazendeiros. Para isso uma empresa de marketing especializada será contratada. O desenvolvimento futuro desse negócio poderia envolver não só a abertura de nossa empresa para diferentes culturas, mas também desenvolver serviços em qualquer parte do mundo onde se produza ou processe a cana-de-açúcar.

3. Introduction

Since the 1970´s in Brazil, the agro-industry sector has received many incentives for its improvement and development. These incentives shaped the Brazilian *knowledge-based* agriculture, similar to the United States of America model. It is based on agricultural credit, research and technical extension. The constant sector development is maintained by technical firms, banks, multinationals, research institutions, mill groups, private consulting firms, cooperatives and farmers.

For the sugarcane crop production and continuous improvement of the national energy sector, the participation of a few institutions played a substantial role during the last two decades. Pro-Alcohol program and CTC represented a new age of sugarcane technology that nowadays translates to the ethanol successful, the national biofuel, alongside the increase of white sugar exportations and renewable energy production, towards the use of bagasse as an alternative energy source for mill plants (Buainain *et al*., 2014).

The two products with more international economic importance are ethanol and sugar. They have generated a significant impact on the national GDP over the last years which made within production increased as a result of cutting-edge technologies that were developed and spread by consultancy services.

According to the Brazilian Institute of Geography and Statistics (IBGE, 2015), the average yield of Brazilian sugarcane plantations dropped insignificantly from 75.1 tons/ha in 2006 to 74.2 tons/ha in 2015. At the same time, total sugarcane production increased from 477.5 million tons to 748 million tons in Brazil evidencing technological improvements.

Considering Brazil still as an in-development country and regarding its political instability, the national importance of sugarcane or any other agriculture sector are strongly related to consulting firms that have been for years already in acknowledged of regional farmers, mill groups and multinationals. It happened regarding the positive performance in different farming implementations, awareness of new technologies and agriculture innovation.

The main services requesting come usually from areas as agricultural management, mechanization, planting, irrigation, application of pesticides, soil, cultivation, phytosanitary defense, precision agriculture, staff vocational training, crop varieties, legal, environmental taxation, agricultural management and a few others.

When unified all services in one platform, a consultancy framework which is Dr.Cana can provide multidisciplinary services formed by experienced professionals operating in all stages of the sugarcane chain. Thus the sector can replace a generalist consultant for a specialist one, which higher crop production and output results. Dr.Cana aims to become an investment with an excellent ratio benefit for associates.

Dr.Cana is going to work as an insurance system, analogically speaking as a health plan, where the associate pays a monthly fee and has 12 months cumulative credits to use on any sugarcane enterprise: farms, mill plants, field transportation, cultivation processes and others. Each service cost some credit(s) and it may be used as the necessity of the associate occurs.

The Dr.Cana consultancy idea represents a fusion of 16 established sugarcane national consultancy firms from many specific areas. The consultants are already known for decades by producers and mill groups for their knowledge in those specific areas.

More than a technical service provider, the firm is a network platform integrating producers, international companies, marketing campaigns and diffusion of information to all types of sugarcane professionals. It is an innovative service approach and model for the national agriculture that has been accepted with enthusiasm. Regarding the dimension and numbers of services, in the future, Dr. Cana could also apply to other crops such as corn, soy, sorghum and agricultural services in general, regarding some of its generalist services.

Economically the use of technologies in agriculture enables new business strategies, like technology diffusion. Technology develops the field and provides an open economy for international investors, accessibility for new markets, international client's requests and new agreements. The firm has the potential to become a worldwide platform for services to the sugarcane chain.

The mill groups in Brazil are becoming international nowadays such as COFCO, GVO, Pagrisa, Serradão, São Martinho, Alta Mogiana, Cosan, Serradinho, Coplasa, Estiva and others. The fusion between old mill plants and international groups started since the begging of financial crises of the sector in 2010. Thus, Dr. Cana tries to provide a product which attends this new national demand.

Currently, the sector employed more than 300,000 people in 2016, only in the state of São Paulo. That fact has increased the economic influence on countryside cities of SP substantially, and many families, producer's cooperatives, outsourced transportation firms and harvest jobs are not included here. The sugarcane sector cooperates for the countryside economy of SP and potentially to the national agricultural GDP (IBGE, 2018).

Beyond the national territory and also focus on areas of farming where quality agriculture can be done, it is important for local producers and technical consultants to understand that Dr. Cana is a tool to support them, and sugarcane´s enterprises, as well as, a network provider for the sector, regarding the sector and clients´ necessities. To sustain that, we developed a targeted survey that evidenced two facts: enterprises on the sugarcane sector are not satisfied with their technical and managerial performances, they do need more agility when delivering services and easier problem solvers. From this, we began to develop the Dr.Cana idea and also this master´s thesis.

4. Literature review

Although Brazilian agribusiness attracts high attention on international markets, among scientific journals, articles, technical and financial magazines from international public bodies and private sector, the agricultural marketing, especially for sugarcane consultancy has to cover a small proportion of literature. Scientific works have dealt mainly with national financial and civil engineering consultancy firms only, which made the research a bit restricted.

Apart from investigating literature about Brazilian agriculture consultancy, agriculture marketing framework and B2B sales processes, a study of the sugarcane sector in the countryside of São Paulo state has been conducted.

This project aims to develop a business plan for Dr. Cana idea considering its consultancy improvement and the opportunity to explore the inserted market, as well as, segment the market and understand the client´s needs. The literature review of Brazilian agribusiness market is playing the role of essential background for this thesis. On its basis, the survey results and the business plan is adapted.

4.1. Business Planning

White & Hodgson relates to the Contingency Management theory the aspects (2013:59) ¨*There is none universally applicable set of management principles to manage a specific organization. Each one is individually different, face different situations (contingency variables), and require different ways of managing*….¨. About relevant factors, ¨ …*there are many external and internal factors which can influence the optimum organizational structure. Those factors include the size of the organization, technology that is in use, leadership style, and how the organization could adapt to changes in strategy*.¨, which correspond to the consultancy environment of our business idea in SP.

The main function of a consultancy firm plan is to guarantee a profitable and comprehensive analysis for the business idea, contributing directly to managers and firm’s partners get through the planned and unplanned actions while starting the business (Dias, 2017). Also, all the writing information developed on this business plan is considered as a management tool for client´s decision-making moment of contracting any consulting service or not, including mill groups, rural producers, agricultural enterprises and multinationals of the sector. The business plan greatest value is to enable the reduction of production costs when incremented from a consulting (Sahlman, 2008).

Lilien (2011) explains that a well-developed plan defines new market possibilities for a consultancy firm, highlights strategies which higher the number of services on track, as well as, generates a framework to improve sales at a top performance. The plan evidences the firm´s internal strengths and weaknesses of the services. That corresponds according to the client´s needs, and boosting the development of a sales framework for them, creating customized B2B agreements, technical visits approaches and a complete client´s feedback of the provided services. It also considers successful and unsuccessful outputs and the overall relationship between the firm and the market inserted (Lilien, 2011). On the external part, the business plan supports managers to reveal the business core values, market volatility regarding main competitors and taping strategies when segmenting, targeting and positioning the services to consumer groups (Sahlman, 2008).

The result of that is identifying management problems during a day of delivered services and understanding future market opportunities. The planning process keeps up to date the product´s quality on a client's perspective. That reflects directly on the firm image and brand awareness in the agricultural sector and mostly in the technical consultancy field (Peterson *et al*., 2001).

Thereby we can consider business planning as a basic tool for any analysis with a market orientation emphasis. According to the article, market orientation is related to top management focus on the firm orientation, risk aversion of top managers, interdepartmental conflicts, connectedness, centralization, and reward system orientation, those are aspects that apply when developing the internal business framework (Ritter *et al*., 2004).

Barrow & Barrow & Brown (2012) have mentioned about conducted studies which confirmed that many companies with a strong short and long-term planning skill outperform their competitors who always neglect the business plan method and a complete planning process. On that perspective, a plan aims to deal with long and short-term goals which will better be described further in this thesis.

Therefore the planning process gathers relevant facts and considerable information from regional news and magazines supporting the definition of our business purpose. The Dr.Cana purpose is basically to reach sugarcane producers, processers or any related enterprise operating on all levels of the chain. We aim to elevate the Brazilian agriculture to the highest standard of technological development. Assertively the business plan is a crucial part of Dr.Cana firm development. It makes us confident about our idea, shows how much money we need, and what it is needed as tangible and intangible assets. Also for how long it is required, providing a detailed marketing mix analysis of the services (Toledo *et al*., 2010).

4.1.1.Benefits of Business Planning

As many management benefits were cited backward, the act of rationalizing a full plan reviews the core competencies of the firm, why clients and the market would want especially our services (Toledo *et al*., 2010).

A list of 10 benefits of a business plan was developed based on (Chwolka *et al*., 2011) research and can be followed on Table 1 - List of benefits when business planning(the author, 2018).

Thus, structuring an agricultural service firm, there is a comprehensive concern about the national agriculture sector, its technical frameworks, regional farmers, regional development, crop producers and employees that constantly need professional training. That means human capital through all sector levels. The business plan also exposes opportunities when understanding the sugarcane production sector based not only on customer satisfaction but also continuous employees/human development. Those are the broader benefit of a business plan once a firm is composed and delivers services to humans (Gomes, 2015).

4.1.2.General Problems of a Business Plan

The key method to start and maintain an idea is the business plan, for this happens, the plan has to be adapted to shifting circumstances (Ritter *et al.*, 2004). Recently, a business plan has gone from being the cornerstone of business development to being deeply re-evaluated. Common aspects had occurred in different unsuccessful firms plan, such as the extension number of pages, repeated information from the previous analysis, a three-year period foreseen when there are still no real data, reflecting on the entrepreneur cost of time and money (Dahle**,** 2015).

Also, it is not responsible for following the plan uncritically, asking questions like: Has the market changed? Did our services turn out the way we thought it would? There is a necessity of reflection and making adaptations to our plan, and that is possibly as important as the quality of the information on it (Dahle, 2015).

A list of 5 negative factors that can influence the business plan was created in Table 2- List of general problems when business planning (the author, 2018).

4.2. Marketing in Agriculture

Agriculture is an established sector considering sugarcane producers. Changing ideas, such as the incorporation of new production processes and technological approaches can conflict with traditional agriculture and out of date farming processes. The insertion of a new consultancy approach in the sector is a great challenge (Barry *et al.*, 2012).

Sugarcane producers and mill groups require a number of diversified services for crop production. It means technical, scientific and managerial processes implemented on the whole chain. Since farming until retail shops or sugar and ethanol exportation, there are many processes for optimization. The services are mainly, crop implementation, follow up, harvest forecasts, and analysis of results and improvement on farm production. They are the most required services by the mill group's internal departments (NovaCana, 2016).

A marketing function is an act, operation of service which the original *producer* and the final consumer are linked together (Gates *et al.*, 2009). In Dr.Cana´s marketing frame the *producers* are mills groups by its tenants and own farms or individual family farmers and multinationals. Thus the final consumers for its products, sugar and ethanol, are firms and public bodies responsible for Brazilian exportation, national beverage companies, food industries, and retail market brands. In biomass, the realization within the industry itself becomes a source of renewable energy (NovaCana, 2016).

An agricultural marketing research studied the features according to the various markets that make up the agro-industrial chains, which are *Food Marketing, Product Marketing, Distribution Marketing, Agroindustrial Marketing, Agricultural Marketing and Rural Marketing* (Silva *et al*., 2000).

For consultancy services, *Product Marketing* is what represents theoretically the service which is our product. Especially for sugar and ethanol commodities production, *Agroindustrial Marketing, Agricultural Marketing and Rural Marketing* theories better describe and classify their agro-industrial chains, as well as, for biomass output.

Marketing on agriculture first aroused with the importance of developing improvement in this sector area, where there were already technological and technical innovation implemented. That created the need of a systematic marketing analysis interpreting the Brazilian agriculture. In accordance with the theories, daily processes can be analyzed precisely and run the whole sector with more clarity and responsible informations (Geldes *et al*., 2015). The brief descriptions of these Marketings are bellowing (Silva *et al*., 2000).

Agroindustrial Marketing: There are different markets located between the macrossegments “industrialization” and “distribution”, as well as between the several “production” segments characterizing the industrial macrossegment which shapes the Industrial Marketing. That is how we adapt to agro-industrial markets. The characteristics are market heterogeneity, well-informed buyers and sellers (collective purchase decision), a limited number of buyers and sellers, collaboration between buyer and seller, and derivative demand, which are power influencers for those markets.This is related to sugar and ethanol production and suppliers delivery.

Agricultural Marketing: markets that are situated between agro-industries and agriculture. The first characteristic of this market is the high number of producers compared to the small number of buyers. It is the market that is closest to pure and perfect competition. The primary problem that occurs is the result of oligopsony forces. The agricultural cooperatives emergency is one of the ways that farmers have found to cope with the oligopolistic power of some large buyers (in Brazil there are 5 million rural producers for only 50,000 agro-industries). This market is typically composed of undifferentiated products (commodities). That is related to sugar and ethanol commodities sales worldwide.

Rural Marketing: Already known in Brazil since the late 1970s, when it was created the ABMR. It is known as being the only market established between inputs producers and the rural owners, which means, it is the interface between rural landowners, agribusiness and the final consumer. It is a heterogeneous market where artisanal producers co-exist with multinationals (use of modern inputs and technology) and local cooperatives. Moreover, these criteria are allied to others such as the size of the property, production destination, type level of mechanization and others which provide relevant criteria to market segmentation. The business strategy can vary widely here.

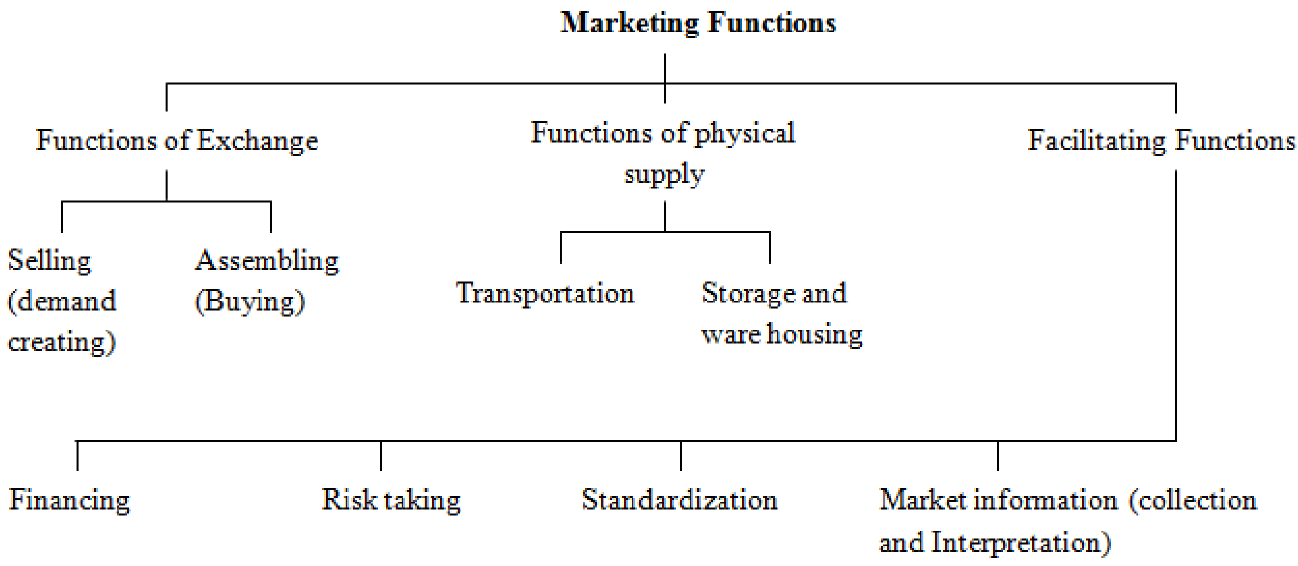
Currently the multinationals companies, that are technical promise in many regions of Brazil, constantly hire a very large number of trained agronomists with the objective of selling directly and easily their chemical products to farmers with no sustainable concerns. That also expresses the importance of consulting services in the sector, which focus on higher production with human and environmental concerns (Ruviario *et al*., 2012).

Product Marketing (or Service Marketing)*:* The most common approach used by companies in the chain is product differentiation. Companies seek to distinguish the product escaping from the price competition. That is, companies seek to highlight their products or services in the eyes of the final consumer. The differentiation is linked to the company's technological capacity, capital availability for brand development and the multi-dimensional attributes of the services.

In this step, the classic segmentations of "product –market" or other criteria of segmentation, such as "occupation", are used. The "combined segmentation" matrix proposed by *Porter* is an instrument of the analysis which evidences a new potential market to be analyzed for the business. It is evident that as greater as the attributes of the product-service, the greater is the possibilities of differentiation (Porter *et al*., 1991). This *Marketing* represents exactly the Dr.Cana services.

The marketing on agriculture can be directed to three different reasons of a business: the function of exchange, the function of physical supply and facilitating functions. The picture above explains.

Image 1- Marketing Functions



Source: Gates *et al*., 2009

The marketing analysis of our business plan is supporting aspects of *Facilitating Function* and *Function of Exchange.* These functions will be developed regarding always the consultancy services. Thus, aspects as creating demand on the agriculture sector and the partnerships with existing agriculture enterprises are important assumptions to consider, as well as, risk management, risk-taking, financing the business idea and standardization of sales. The applied survey, internal and external analysis are strong information providers when developing a strategic marketing plan (Ruviario *et al*., 2012).

4.2.1. Agricultural Consultancy firms

Currently, the agriculture consultancy sector is mostly composed by private bodies that are focus in one or two technical services only as irrigation and soil recovery combined, mechanization and GPS, and others. The issue of not having an integrated system for all levels of the production chain result in consulting firms providing mistaken advice about tangents problems during latest years (Bergamaschi, 2012).

An agriculture consultancy firm needs to be known regarding the qualify consultants working for it. Once clients on the decision-making moment of acquiring a consulting or not review their strategies, operations consequences and decide for a more promised strategy, the result is to search for more competitive and quality services. The easiest way to sign a service contract would be via a website where the client can find the firm´s services and an easy way of requiring services when needed (Tipton *et al*., 2007).

The consultancy firm duties involve some in-house work and periodic visits to the client, reporting the current performance on the project, progress meetings and activities agreed to the service contract. Upon completion of the project, the consultant produces a detailed final report that describes the updated status of the client. Finalizing a project may also involve another meeting with supervisors to provide guidance on how to maintain the consultant’s recommendations (Tipton *et al*., 2007).

An insurance model of services is a way of replacing a generalist consultant to applied ones in different areas, after a careful analysis of the farm or enterprise. An integrated model would optimize all production levels, and there is a need of this type of model in the agriculture market (Mitchell, 2006).

Information on technological trends and current national researchers on many areas of agriculture assistance are spread over a government institution, CATI (Coordenadoria de Assistência Técnica Integral). The main networking provided on sugarcane crop are IDEA Group, DATAGRO, UNICA and Copersucar, that annually realize meetings about mechanization, costs reduction and others areas for professionals. The Agrishow in Ribeirão Preto city is also known as one of the largest and most complete fair of agricultural technology in the world, covering multiple topics, as the development of advanced software for agribusiness (Bergamaschi, 2012).

The Brazilian Sugarcane Industry Association (UNICA) is the leading sugarcane industry association in Brazil. It’s more than 120 member companies and voluntarily engaged, representing over 50% of the ethanol and 60% of the sugar produced in Brazil (UNICA, 2018).

A consultancy firm aims to bring news to producers and enterprises for preventing costs. However, on SP state sugarcane sector, private firms as NovaCana Group and Markestrat are the majors data providers for entrepreneurs, financing institutions, investors, producers and curious of the sector, as private market research firms.

4.3. Sales process in B2B

Sales processes are about acquiring new clients and close more deals, this means, selling more services (Piercy, 2006). Taking into consideration the consultancy services, B2B sales efforts require a precise approach to keep business at the forefront, while maintaining our firm advantage over main competitors (Storbacka *et al.*, 2009).

A recent research demonstrated that a sale is changing in three interrelated fronts: from a function to a process; from an isolated activity to an integrated one with departments. It is becoming strategic rather than operational (Storbacka *et al.*, 2009).

As the knowledge of marketing-sales interface expands, there is a need for specific aspects of marketing–sales configurations in B2B firms. Those are related to firm structure, communication patterns, sharing information, collaboration, and strategic outcomes which directly reflect the business performance (Biemans *et al.*, 2010).

A consolidated internal framework on any B2B firm requires an ERP system that creates a sophisticated operation control. It organizes database of potential clients for contact in the future, update services requirements, consultant reports and keep on track client´s information (Agnihotri *et al.*, 2016).

A firm´s website extended to an APP version also plays an important role in communicating with future and current clients. The APP works as a precedent to enhance consultant approaches, which is always focusing in the increase of client satisfaction on solving problems, rather than just a direct factor, as the service presentation (Agnihotri *et al.*, 2016).

An innovative way of delivering services will be described in this thesis, and it is compounded in the development of an audit system on the client´s first visit and a detailed catalog consulting services. This strategy creates the opportunity of visualizing faults and also to deliver tangent services in the future. Thus, when structuring a consultancy firm, it can also encourage its managers to evaluate deeper the communication tools and the use of an audit system by in-service consultants (Biemans *et al.*, 2010).

4.3.1. Targeting Businesses

Segmentation, Targeting and Positioning (STP) are marketing strategies when analyzing the market. It is the marketing model aligned with the SWOT matrix and Porter forces that are going to provide valuable information when developing any firm strategy. Previously, marketing approaches were based on product or service rather than clients. In the 1950s, for example, the main marketing strategy was ‘product differentiation’ (Lynn, 2011).

The STP model creates business strategies, since it supports managers when prioritizing propositions, developing and delivering personalized services. The model also gives insights on relevant messages to engage with different audiences (Venter *et al*., 2015).

After the market segments have been identified, a decision need to be done about the target(s) and which ones to disregard for the firm services. Thus, attractive targets are those segments that have strong sales growth potential, also relatively inexpensive to reach with marketing efforts. They are currently served by few or weak competitors and have needs that our firm’s resources are well suited to satisfy (Venter *et al.*, 2015).

Comprehensively to create our market place, set the pace and define unique services with innovative aspects the Canvas Model will increment our analysis in this direction.

4.3.2. Service Loyalty

A relationship with the client is created by a consensus and commitment business´s performance, from the beginning an effective relationship represents a collaborative search for acceptable answers considering the client’s real concerns. Ideally, each visit includes a two-way reporting about what consultant has been done since the last contact and a discussion of what both parties should do next. In this way, a process of mutual influence develops, of course with natural shifts in agenda and always focus for the project continues (Hong, 2013).

The ERP implementation maintains the operations with client´s at 24 hours per day seven days of the week and supports emailing on marketing champagnes. That ensures a complete technical support after the subscription of any consultancy contract. If there is a grace period, the client must be associated for a minimum period of one year period and assumes the monthly fee payment. Thus, comparatively a related study indicated a degree of adverse selection that may take place if health insurance policies are offered with the option to take a deductible in exchange for a premium reduction. That can apply to a insurance system which suggests that the monthly fee can affect more in the purchase moment rather than the annual fidelity (Wynand *et al*., 1981).

5. Methodology

5.1. Analysis Framework

The *Macro context* will determine the different external constraints that may influence the firm, by analyzing Political, Economical, Social, Technological and Environmental factors through a PESTEL analysis.

The *Micro context* will analyze the potential profit of the determined industry though *Porter Five forces* model when referring to Dr.Cana.

The *Competition Analysis* will point out main competitors of our business idea, marketing and sales channel possibilities, and the non-customer analytics when expanding clientele, also considering the unmet necessities of the agriculture consultancy sector, the market size and future trends. The Porter five forces will support on this phase.

Both internal and external analyses will be supported by the Canvas Business Model, concluding on the development of a new market for Dr.Cana.

5.2. Marketing tools

On this part will be identified the key aspects and strategic capability of the business through the SWOT *Analysis*.

The *STP Model* sets the right customers for the services offered, using Segmentation, Targeting and Positioning tools that reinforce the product differentiation value to our idea.

The Marketing Mix describes specific different aspects of the business divided by product, price, promotion, and distribution.

And as a result of all internal analysis, *Implementation* will take place as an execution program for the project.

5.3. Survey

For this project, a qualitative research was chosen. The study will be conduct based on one survey in the SP state in Brazil. It will be developed with the aim of studying potential markets, target customer groups, better understand our clientele and lack of consumer needs. Enterprises, multinationals, cooperatives and farmers participants will answer the questionnaire.

The survey was conducted in September of the year 2018, after a Brazilian sugarcane harvest season. However an online approach on social media with people in the sector going to result on a deep understanding of the market and its lacks on services, customer's satisfaction and parallels aspects considered for the Dr.Cana business plan optimization.

6. External Analysis

A market analysis is based on three core contents: the *firm*, the *market* and the *competitors*, providing guidelines which enables us to identify the operating place, how the agriculture consulting sector is structured and the different categories of competitors we are going to treat.

Therefore an external analysis is focused on the exterior aspects of the firm, namely, *the market* and *the competitors,* and related factors around them. Considering our business idea, the first fusion of 16 others consultancy firms on the sugar cane sector, market competitors can arise from different perspectives while the analysis can disclose others market opportunities for services application in the future. Thus it will be highly considered segmenting our customer basis when understanding who we are targeting with Dr.Cana, concerning the firm´s capabilities and resources.

6.1. Macro Context /PESTEL

6.1.1. Political and Legal Factors

Starting a business in a country with political instability and corruption in different levels of the society as Brazil brings into a certain wariness when dealing with public and private local parties.

According to IBCO – Brazilian Institute of Organization Consultants, the consulting activity seeks to research, identify, study and solve problems, general or partial, concerning the structure, operation and administration of companies and state entities. Legally speaking when structuring a consultancy firm as described above, the entrepreneur must fulfill some initial requirements to open the business in Brazil. It can only be established once they have been fulfilled, namely:

• Board of Trade.

• Federal Revenue Secretariat (CNPJ).

• State Secretary of Finance.

• City hall to obtain the operating license.

• Employee Union Entity (the company will be obliged to collect until January 31 of each year, the Employee Union Contribution).

• Complete registration with Caixa Econômica Federal in the “Social Connectivity – INSS / FGTS” system.

• Military Fire Department.

• Visit the city hall where you want to set up your company to make the local consultation and issuance of the local certificates.

The ISS is the typical tax of service provider firms. It is levied on the services listed in Supplementary Law No. 116, 2003. Its rates can range from 2% to 5%, depending on the type of service and which municipality is established the firm or providing the services. Some municipalities charge the ISS based on the cash regime (receipt of revenue) and others, on an accrual basis (extent of billing) (Brazil, 1988).

Briefly, considering the complexity of Brazilian taxation, service providers are subject to the collection of the following taxes: PIS, COFINS, IRPJ, CSLL, social security contributions, ICMS (on intercity transportation and telecommunications) and also ISS. Tax consulting desks and a local tax advisor are commonly requested when starting a business process in Brazil; private desks have consolidated participation on that (Brazil, 1988).

In 2015 an event that brought political instability was the Impeachment of the president Dilma Rousseff resulted from investigations of the operation “Lava Jato “, a complex system of money laundering and corruption involving international private institutions and public parties. Successively it resulted in the arrest of the ex-president Luis Inácio Lula da Silva as well.

Here is important to highlight, the operation was approved and began during the mandate of the leftist parties “Partido Trabalhista“ where Dilma and Lula belong. It is the first great case of political veracity in Brazil which also encourages political legitimacy in whole South America. The “Lava Jato“ case is still open and surely affects the constant political instability for entrepreneurs and countries with economic relations with Brazil.

Explaining the international impact of this, news from appointed newspapers are constantly appearing as – “*Brazil’s economy slumps to 25-year low*“, “*The Guardian view on Brazilian corruption: the public deserves a voice Editorial* “from The Guardian newspaper, and also

"Brazil's Crisis: How Fighting Corruption Could Imperil Political Stability", "*Brazil's Democracy Pushed Into the Abyss*" from The New York Times evidences the bad repercussion.

Thus analyzing the latest three years until 2018, different political factors have created an impact on agriculture and consultancy sector, namely:

1. The GDP growth, after two consequential years in the negative (2018 projection is positive in 1, 5%) following the Graph 1- Performance of the Brazilian GDP (%) (IBGE, 2017).
2. The inflation rate was lower than 3% in 2017, for the first time since 1998 according to Graph 2- Brazilian Inflation Rate (IBGE, 2018).
3. Directly related to inflation, another highlight of 2017 was the reduction on the Selic interest rate (Selic is the Brazilian minimum rate or hurdle rate). A minimum rate is the basic interest tax defined by the government, based on which private and public banks calculate their interest rates. Usually, the government reduces Selic when it wants to encourage the offer of loans with lower rates, stimulating the consumption and livening up the economy. On a business perspective Selic interest rate influences short-term interest rates as part of national monetary policy strategy. An annual variation of this rate is shown in Graph 3- Evolution of the basic interest rate Selic rate (% per year) (Central Bank, 2017).
4. As the Table 3- Participation of member countries in MERCOSUL GDP (%) (FMI, 2013) explains, Brazil is the main economic contributor to the commitment of MERCOSUL (Argentina, Brazil, Uruguay and Paraguay) and to its GDP. Based on that the TEC (Common External Tariff) exists but does not influence the national development and performance according to a study from USP (Sacchetti, 2013). Following the Graph 4 - Evolution of the average tariff applied to MERCOSUL countries (%) (FMI, 2012) an overview of the evolution of the average tariffs from MERCOSUL countries in last decades is described.
5. The use of financial credit in different links of the sugarcane chain, as costs, industrialization, commercialization and investments for companies, groups and enterprises, described from BNDES in Graph 5 - Amounts contracted in R$ billions (BNDES, 2017).
6. The constant process of unification and standardization of commodities for exportation (phytosanitary barriers) impacts on partnerships with main export countries namely the USA, India and UE.

7. The RenovaBio national program is providing certificates (Cbios) to support country´s carbon emissions targets for producers once they collaborate with implemented governmental politics and national sustainability.

Considering those aspects above, it is clear the relation between the internal price of Ethanol and the sector performance, affecting directly agriculture enterprises. Therefore, as greater is the sector performance, more consultancies services are required from farmers, mill groups and others.

6.1.2. Economical Factors

The Brazilian economy, during nine years (2004-2013) lived a period of expansion with an average growth rate of 4.0% per year, accompanied by an improvement in income distribution and poverty (DePaula *et at*., 2017).

What happened was that since 2014 an abrupt contraction of this expansion changed the economy. The country suffered from a recession period with negative average GDP growth rate of 3.7% for the next two years (2015 and 2016). It brought down various social indicators (DePaula *et al.* , 2017).

In 2017 the national GDP closed at R$ 6.6 trillion with a positive growth of 1% comparing to 2016, the inflation rate was 2,95% as explained by Graph 6 - GDP and Inflation (IPCA accumulated rate in 12 months) (IBGE, 2018). The economic growth could be measured in nominal or real terms (GDP), the latter of which is adjusted for inflation. For the previous of 2016, the GDP closed at R$ 6.3 trillion with negative growth of 3,6% compared to 2015, the inflation rate was 6,29% explaining the economic retraction and the instability on a long-term perspective.

According to IBGE (Instituto Brasileiro de Geografia e Estatística) survey, the national unemployment rate is 13,1 %, meaning that 13.7 million people were without a job at the end of 2017. For the same year, the country had 19 million workers on agribusiness representing 20% of the total workers.

Agribusiness represented 23,5% of the national GDP in 2017 valued at R$ 1.4 trillion. Comparing the years 2016 and 2015 with 2017, we can see a reduction in the participation of this sector. However, on a decade perspective, agribusiness almost double the value contributed on total national GDP, as Table 4 - Brazilian agribusiness GDP 2006 to 2018 in R$ Million (CNA, 2018) details.

Thereby we are facing a moment in the economy where internet and technology are changing the relationship with employees, enterprises, customers and public sector completely, explained for the Gig Economy phenomenon, which has growing participation on all business fields, and not different in agriculture.

Today employees tend to assign for temporary jobs as freelancers workers, reflecting on a different job structure. The consultancy sector follows the same trend focus on solving problems efficiently rather than the traditional eight working hours per day. The greater asset here is to connect technical acknowledgments with people who produce outputs in agriculture. Thus, we may improve agriculture with more flexibility and efficiency jobs, translating into a better performance, more national productivity and a higher GDP for Brazil.

Currently, the economic growth goes through a period of deceleration for the sugarcane industry besides the fall in production of sugarcane. There is also a decrease in the processing capacity of sugarcane as a result of the financial difficulties experienced by producers and mill groups (IDEA, 2018).

From 2008 to June 2012, 41 mill units ceased their activities in the Center-South region, due to the growing acceleration sector, eventually led many units to bankruptcy or judicial recovery process. These 41 production units closed their activities which represented a reduction of the processing capacity of about 32 million tons of sugarcane crop per year. A loss of 13,000 directly and 32,000 indirectly jobs were estimated in the processing industry for 2018 (NovaCana, 2016).

Another factor is the commercial war by producers with the American Ethanol. Brazil imported R$ 1.7 billion of US corn ethanol and sold R $ 1.4 billion of sugarcane ethanol in 2017, mainly to the US, but also to Korea, Japan, Netherlands and others. The main destination of American ethanol in Brazilian territory is on Northeast area where distributors make price arbitrage, failing to buy in the local market to take advantage of the American super offer. This ethanol comes to Brazil because the USA cannot improve their environmental laws. The issue is neither price, but simply the distributors prefer to buy there on time and sell in the local market insight (IDEA,2018).

Considering the SP state, agribusiness represents approximately 15% of the SP GDP, as this estate is not only focused on agriculture but also services and tip technology, also being the main national producer of sugarcane crop. For 2017 agribusiness generated close to 18% of the state's formal jobs (NovaCana, 2016).

According to IBGE, the state of SP presented the highest proportion of municipalities with moderate or high development among all Brazilian states, according to the 2018 edition of the Firjan Municipal Development Index (IFDM). The study adopts a scale ranging from 0 to1, and the closer to 1 the greater the development of the municipality is.

Regarding the 643 municipalities evaluated in the state, 177 (27.5%) had a "High" index and 462 (71.9%) "Moderate". They are municipalities with very strong productive and managing activities to turn this good economic environment into improvements in education and health (IBGE, 2018).

Analogically the GDP of SP can be compared to the sum of the economies of Argentina, Uruguay, Paraguay and Bolivia. If it was an independent country, its nominal GDP could be classified among the 20 largest in the world (FMI, 2012).

6.1.3. Social Factors

The sugarcane harvest in Brazil did not begin mechanically at the field as it does today. It started with manual cutting, burned, and only the loading was mechanical. In the 1950s and 1960s improvements in mechanized cutting began with the importation of the first machines from Australia that still required the burning of sugarcane. At this time burning procedure was not seen as an environmental and social problem yet.

The seasonal farm workers are employed at seasonal times, such as in plantations or harvests, and carry out manual labor activities. Generally speaking, seasonal farm workers have no specific study or vocational training and have been expropriated from the field, or have not found work in urban centers. In the case of sugarcane, the workers are divided into groups and the use of dangerous tools for cutting at the field exists.

The near extinction of these workers in São Paulo state is directly related to the ban of sugarcane straw burning, a process that began gradually in 2007 and ended in 2017. Without burning, manual cutting becomes impractical, and the use of machines is required. Nowadays by law, only small properties with less than 150 ha, or areas with steep slopes are allowed to continue with manual cutting (IEA, 2017).

Regarding 2017 harvest, less than 150 works were registered in the state of SP, but ten years ago this figure reached 9,600 works according to IBGE.

Moreover, the production of ethanol and sugar has generated relevant social impacts, such as the improvement of rural income, increased purchasing power, the generation of large-scale jobs in the whole chain and national reduction of external dependence on oil.

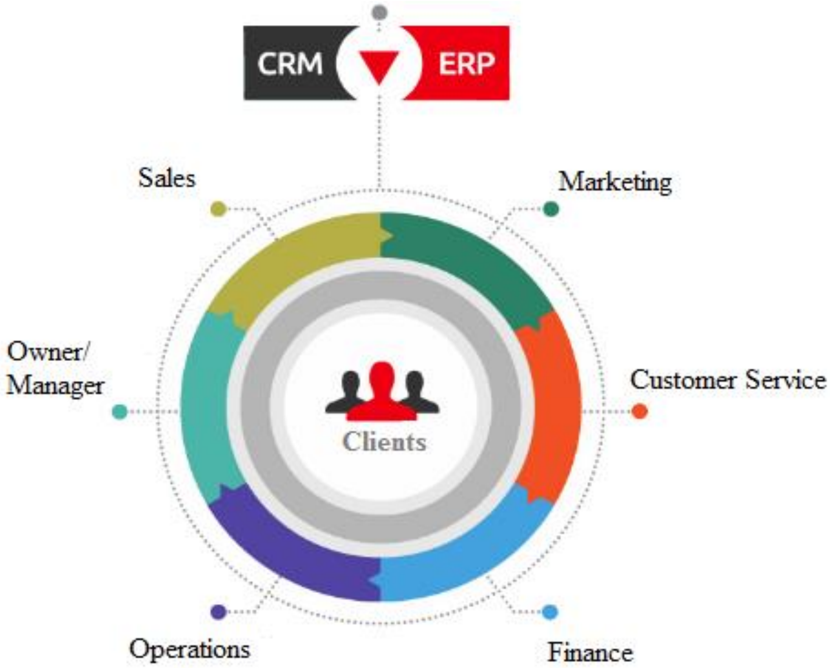
According to Image 2 - National HDI (UNDP,2010), the large economy of SP translates on good social indicators compared to the rest of the country, such as the second highest Human Development Index (HDI), the second lowest infant mortality rate, the lowest rate of homicides and the fourth lowest rate of illiteracy among Brazilian federal units as Image 3 - Best cities in SP state (IBGE, 2012) also describes.

6.1.4. Technological Factors

Until the year 2020, it is expected that customer manage 85% of its relationship with an enterprise having had no human interaction. That explains the technological context we are already inserted when more than ever, successful and unsuccessful business will be based on the enterprise's ability to create design-centered technology experiences for customers and employees. It is all about positive interaction, faster communication tools and responsive feedback to services when dealing with people needs (O'Leary, 2000).

Structuring an integrated consultant system of services as Dr.Cana requires a large networking database and an ERP system which offers an integrated IT solution. To innovate, consultants need to share knowledge with clients, fellow consultants and their experienced superiors.

Image 4- ERP interaction of areas



Source: Deloitte,2018

A recent study of 800 US companies showed that ERP was commanding 43% of the companies' application budgets and the system was installed in almost half of them. Users, according to the study, were also moving beyond core applications to extend ERP systems to support web-based applications, e-commerce, customer relationship management, and business planning. Therefore, technology can provide an efficient contracting process via website or APP, translating into facility for clients (Nuwankpa, 2015).

Each day is easier to create a website and it's not that hard to create a mobile version of it (APP). It is possible to develop an APP from scratch using HTML and CSS, and also with some knowledge specific to mobile, such as viewport, CSS media queries and mobile usability (Apple Inc., 2016).

The versatility of requiring consultancy services as ¨e-service¨ via APP and website make firms increase operational process significantly. They focus on a technical and customer support expertise teams rather than a traditional sales team of services or products.

On an operational level in agriculture, aggregating field data from GPS, mechanization and precision agriculture to others tech tools connected to an general operating system can support the consultant decision-making during projects. This system also helps the customer achieving results, when providing its data, contributing to more realistic problem-solvings. Thus, the firm´s tech tools are aggregating not only when approaching clients via website or APP, but at all industry levels when producing sugarcane (O'Leary, 2000).

Following the rapid application of technology to agriculture, in 2013 the SP state achieved 83% of the total sugarcane production areas as harvested mechanically. This is part of the precision management of agricultural groups of the sector. However, groups with high productivity are working to expand sectors of sugarcane production as precision raising, precision processing to higher productivity, high efficiency on operations, low cost and less environmental pollution solutions, as well as, high value-added technologies. From this effort we understand that precision agriculture systems are important to develop sustainable agriculture.

6.1.5. Environmental Factors

Replacing a native vegetation for a crop production as sugarcane entails in many ambient factors: increases erosion, leads to soil impoverishment, accentuate sedimentation of rivers and lakes and increases soil flooding. It lowers the aquifer resulted from less infiltration of rainwater in the subsoil, and also decreases in rainfall levels, as a consequence of the end of plant transpiration and elevation of local and regional temperatures. Those are consequences of the greater irradiation of heat to the atmosphere from the exposed soil. All these effects are changing local lives and the environment.

The United Nations Conference on Sustainable Development (Rio +20) held on 2012 was one of the largest events in the history of the UN based in Rio de Janeiro (RJ), with the participation of 193 countries. The broad dialogue with Brazilian society has resulted in national states' commitment to eradicate extreme poverty. It also took place of three equally important issues, the launch of an intergovernmental process called Sustainable Development Goals (ODS), a High-Level Political Forum on Sustainable Development and the encouragement of the strengthening of the United Nations Environment Program (PNUMA) (Itamaraty, 2018).

Ambiental factors of the sugarcane sector are directly related to social ones when thinking about the exacerbated use of agrochemicals, erosion, water silting, soil compaction, burning, besides land concentration and income. That shows the necessity of wise people operating in agriculture for a positive and sustainable future.

The law no.12.651 from 25th May 2012 is a recently updated version of the Forest and Permanent Preservation Areas law, establishing general norms on vegetation´s protection, permanent preservation of legal reserve areas, logging, the supply of forest raw material, control of the origin of forest products and control of forest fires. It also provides economic and financial instruments to achieve its objectives.

For our consulting sector, it resulted in a change in farming, since the forest area should be 20% of the total farm, as well as, a significant reduction of sugarcane burning, among other criteria that must be fulfilled by the law.

After understanding an agro-industry impact in the ambient, the constant improvement of the processes of production and accurate managerial decisions are the core responsibilities of managers, stockholders and consultants. They will guide future agriculture and also take decisions to reduce lives and environmental problems.

6.2. The Sugarcane and the Ethanol Market

Sugarcane is the world's largest crop by production quantity worldwide, with 1.9 billion tons produced in 2016, and Brazil accounted for 41% of this total. In 2012, The Food and Agriculture Organization (FAO) estimated it was cultivated on about 26×10^6 ha, in more than 90 countries. Brazil is the main crop producer in the world with around 740 mil tons per harvest, widely in front is India with 340 mil tons and China 125 mil tons in the year 2015, as Table 5 - Ten largest producers of sugarcane in 2015 (FAO, 2016) explains.

As mention previously the sugarcane market is basically composed of three products: ethanol, sugar and bagasse, but also this agro-industry maintains the largest commercial system of bioenergy production through its two products, ethanol (replacing about 40% of gasoline, a fossil fuel source) and bagasse, as a source of bioenergy on processing plants (IDEA, 2014).

According to Graph 8 - Agribusiness GDP of São Paulo state in R$ billions (CNA, 2018), the state of SP assumes 58% of the national production, and it is the pioneer of large scale crop processing, which is operated by mill groups, multinationals, small and large producers and tenants. The consulting on sugarcane has become a highly qualified service in the state. The optimization of operational processes has direct economic importance when considering the production and exportation of ethanol and sugar regarding Graph 7- Main destinations of São Paulo state exports from the sugar and alcohol sector (UNICA, 2018).

Currently, the agricultural GDP for SP state is composed of 77% agriculture and 23% livestock, and in 2017 closed at a total value of R$268 billion (CNA,2018).

All the sugarcane products totalized an amount of US$ 43.4 million on the harvest 2013/2014. Only the sugar contributed with US$ 18 million and ethanol with US$ 24 million as detailed in Table 6- Estimation of the sugar-energy sector GDP for harvest 2013/2014 (Markestrat, 2014).

The evolution of the Brazilian ethanol market has presented a mismatch between potential demand growth and supply, and the reasons are two. The first case, the strong growth in demand reflected the expansion of the fleet of flex-fuel vehicles in Brazil. In the second case, the supply of ethanol was stagnant due to the lack of investments in new productive capacity, mainly expansion of areas and green fields (Phillips, 2018).

Thus, the forecast for the national energy capacity until 2023 explains an annual increase of fuel deficit in Brazil. Regarding the OTTO Cycle on Graph 9- OTTO-Gap energy cycle (m3 Equivalent Gas) (CNPE, 2014), the government is predicting an increase in total ethanol production (5 billion liters) and gasoline production (2 billion liters).

Considering the annual increase of ¨ energy gap¨ detailed in Graph 9. On 2024, 8.5 m³ gas equivalents will be missed if we kept the 27% blend of ethanol on gasoline, meaning that the country won´t be able to produce all your fuel and still needs to import gasoline even when the amount of biofuel is increasing year by year. This forecast evidence a huge potential to ethanol or any fuel alternative (CNPE, 2014).

The ethanol production is more energetically efficient than corn, sugar beets or palm/vegetable oils. Particularly with the bagasse, it is possible to produce heat and power for the process. Furthermore, if biofuels are used for crop production and transport, the fossil energy input needed for each ethanol energy unit can be very low. EIA estimates that integrating sugarcane and ethanol technology, the well-to-wheels CO_2 emissions can be 90% lower than conventional gasoline (Soares *et al*., 2009).

A study found that the utilization of ethanol in Brazil resulted in a reduction of 600 million tons in CO2 emissions since 1975, an amount equivalent of 7 percent of Brazil's total CO2 emissions from the consumption of energy over the same period. Hydrated ethanol is the common ethanol sold at the stations, while anhydrous ethanol is the one mixed with gasoline. The difference between the two relates to the amount of water present in each of them (UNICA, 2007). Also, the current national gasoline contains around 25% of anhydrous alcohol, and the index projections are for 30% in 2020 and 40% until 2030 regarding Table 7 – Projection of the potential demand for ethanol (in billions of liters) (MME, 2015).

For the sugar production, mill plants extract raw sugar from freshly harvested cane and the "white sugar" is produced immediately after the first stage at sugar-extraction mills, intended for national consumption and exportation (Soares *et al*., 2009).

As described on Table 8- Sugarcane milling/sugar and ethanol production - projections for harvest 2017/2018 (BNDES, 2018), it is important to know the harvesting and off-season periods of the crop, so we can evaluate prices on the stock market and internally. The harvest of the sugar cane occurs in May (Contract Future month May) to November (Contract Future month November). The off-season occurs in the period before the harvest. The 2017/18 harvest estimative for sugar production is 39.46 million tons, 2% more than the previous harvest. For the same period, the ethanol expectation is 27.05 billion liters, with a decline of 2.7%. While the hydrated ethanol drops 5.2% (16.73 to 15.87 billion liters), the anhydrous ethanol rises (11.07 to 11.18 billion liters) 0.9%.

Thus to reduce oil importation and external necessity in Brazil, the National Alcohol Program was launched to promote ethanol production and made it mandatory blending oil with ethanol at a fixed ratio. Initially, the production and export of ethanol were highly regulated in the country, but since the 1990s the market was gradually deregulated and currently, the government does not control the ethanol sector, whatever it still maintains the mandatory blending ratio (USDA, 2011).

Considering the recent study of Melo&Sampaio (2016), a shock on sugar price has more impact on the sugar and alcohol industry than the ethanol price. This phenomenon occurs regarding the consolidation of the sugar in the foreign market. However, the sugar supply variation is inherent to factors linked to production, as national inventories. The study also developed a model suggesting that sugarcane producer reacts strongly to a change in the price of sugar about a change in the price of ethanol. That reveals the preference for producing sugar for the foreign market instead of producing ethanol for the domestic market regarding Graph 11- Productivity of Brazilian ethanol and sugarcane (USDA, 2011).

The price of gasoline also impacts on the dynamics of the sugar and alcohol industry. The results of a study explained that the producers of the sugar and alcohol industry have a benefit from increasing production stead of increasing prices. The price of gasoline, in turn, is controlled by the government although it has been nominally deregulated after 2002, regarding Graph 10- Evolution of prices of sugar and oil about Ethanol (MME, 2012).

Considering the market features and the constant increase in the crop production and demand, consultancy support plays a fundamental role in the development of the sugarcane sector.

6.3. Agriculture Consultancy Firms

After the 1980s, following the world rural extension sector, significant changes occurred in technological Brazil. The industrialization context of the country allowed the emergence of competitive agro industrial complexes, with the participation of large companies as multinational, international producers of inputs and equipment. Therefore farm businesses started preferring private technical assistance, as consultancy firms, instead of public institutions which since then have been favoring sustainable development, based on the technological standard for small producers (IEA, 2017).

Different models of rural extension systems can coexist, with also diversified sources of financing, especially in countries like Brazil where there is great heterogeneity of production profiles and markets. BNDES is the main institution providing rural incentives as credits for producers.

However, agriculture consultancy firms have emerged all over the country regarding the rural extension development of the region and understanding that agriculture activities can apply to different crop productions, livestock, or both. Consulting firms are focus on one or two technical processes only, such as irrigation, soil recovery, mechanization, fertilizers and additions, pest control, agroforestry, technical capacitating and others. The firms do not necessarly serve a specific crop while the presense of systems as crop rotation and use of new areas for production are growing issues for a more sustainable production.

The agriculture consultancy firms do not depend solely on analytic expertise, but also the ability to present convincing reports, partly because there are now more people within organizations and multinational with the required analytic techniques. Increasingly, the best technical consultants on agriculture area define their objective as not just recommending solutions but also helping institutionalize more effective processes on groups of the sector, and that is exactly the Dr.Cana propose.

According to Graph 13- Companies by sector and region (Deloitte, 2016), the southeast region where São Paulo state is based represents 48% of the national companies in Brazil. We can assume that agriculture consultancy firms follow the same trend, and so 8% of companies in the southeast region are related to the agriculture sector. Comprehensively, this analysis relies on the agriculture consultancy market, assuming that outsourced consultancy firms are mainly nationals. This assumption is correct since we understood that most of these national consultancy firms have between 5 -17 employees and a CNPJ (Cadastro Nacional da Pessoa Jurídica) (Deloitte, 2016).

Considering the Agrishow catalog of 2017, some 538 firms in the agriculture technology field were subscripted as expositors on this event. That can give a simple notion of numbers when talking about the agriculture consultancy sector in Brazil once there isn't any research for an estimated number of firms (Bergamashi, 2012).

The Brazilian territory comprehends 33.8% in agricultural land, and only 0,007% (61.530 ha) is destined to sugarcane production, according to the World Bank in 2014. The two main region producers of sugarcane are northeast and southeast; the second is the larger one and includes the São Paulo state as Image 5- Location of sugar and bioethanol plants in Brazil (CTC, 2005) details.

The sugarcane cultivation areas are always located within 25 km from the processing plants, for reasons related to transportation costs. Consultancy firms follow the same positioning in order to be accessible and operational active in the whole sugarcane chain. The SP state is a leader in all stages of the chain as well as a pioneer in research and development (R&D) in agriculture (Investe SP, 2018).

According to FAPESP (Fundação de Amparo à Pesquisa do Estado de São Paulo), the participation of private companies in research has been increasing. Foundations, associations and cooperatives also have expanded participation in the sector research. Even when it is not the main focus, these institutions make efforts to organize and acquire knowledge.

The research sectors for sugarcane in the state of SP are: *applied genomics and varieties genetic enhancement* (varietal management on the farm), *bioinformatics* by software development on companies and research centers that use biotechnology in their businesses, *fertilizer industry* with more than 33 firms only in this state, *agricultural equipments and implements* where the 8 largest companies producing concentrate 91% of total net revenues in the state, with a notorious internationalization (Investe SP, 2018).

The Votorantim Group, Canaviallis, Scylla, CTC, Dow Agro Sciences, Bayer, Basf, Monsanto, Syngenta, Pioneer, John Deer, Embrapa, FAPESP and others public institutions have demonstrated participation and contribution on the sector as well.

Thus, consultancy firm aims to integrate technological trends of each chain segment to an edaphoclimatic region as the countryside of SP for example, its specific soil condition, analysis of lacks in management of mill groups and others factors. Agriculture consultancy firms on sugarcane are operating mainly at 13 different areas (IDEA, 2018):

- *Agricultural Management*
- *Varieties of Sugarcane*
- *Harvest Mechanization and Plantation*
- *Quality of Raw Material*
- *Soil*
- *Laboratory Analysis*.
- *Crop Cultivation*
- *Phytosanitary Defense*
- *Precision Agriculture and Irrigation*
- *Biomass*
- *Environmental and Agricultural taxation*
- *Productivity recovery*
- *Due diligence*

For the different areas that consulting can apply, firms operate specifically in one or two segments nowadays, without a complete overview of the production process. Dr.Cana deliveries consultancy services and creates a general operational overview. It is also a customized platform regarding client´s necessities, which the first visit as an audit system, results on optimal client´s performance.

6.4. Main sugarcane producers in SP state

Currently, 172 mill plants are based in SP state considering small, medium and big sizes of groups. The top 3 producers groups are Raízen, Odebrecht Agroindustrial and Tereos Group which also buys and sell sugarcane outputs. Separately, for the commercialization of sugar and ethanol commodities only, Copercana is widely the first.

Raízen Energia is a Brazilian industry and a joint venture between Brazil's Cosan and Shell, it is the largest sugarcane milling group in SP state, with 12 units in this state and 26 all over Brazil. The company intends to maximize profitability, without expanding. Projects related to the production of cellulosic ethanol called second generation ethanol (2G) are already in process. Last year revenue was R$86,2 billion in what part of that come from the crop production on 860 .000 ha of land which generated 2 billion liters of ethanol, while the commercialization of this product was 25 billion liters in total. That shows its purchasing power from small and medium processor groups.

Odebrecht Agroindustrial is a Brazilian industry part of Odebrecht SA, founded in 2007 stands out in the national and international market, with the production and commercialization of ethanol (anhydrous and hydrated), sugar and energy produced from biomass. Nationally, it has nine agroindustrial units and has a crushing capacity of 36 million tons of sugarcane, enough to produce 3 billion liters of ethanol and 700 thousand tons of sugar and cogeneration of 3,1 thousand GWh of electricity per harvest. The Odebrecht SA revenue was R$ 89, 7 billion in 2017.

Tereos Group is the third largest producer of sugar in the country. In addition to its large presence in the food industry with the supply of sugar, the French Tereos Group produces ethanol and energy on a large scale from cogeneration of sugarcane bagasse. In the 2017 harvest, the company processed 20.2 million tons of sugarcane and produced 1.8 million tons of sugar, 646 thousand cubic meters of ethanol and more than 1 thousand GWh of electricity for commercialization.

For Tereos Groups the production occurs in 7 industrial units, located in the State of São Paulo, in the municipalities of Andrade, Cruz Alta, São José, Severínia, Mandu and Tanabi. Since 2007, the company has an industrial unit, a sugar producer, also in Mozambique, Africa.

Copersucar makes the connection between mills and the customer, commercializing sugar and ethanol on a large scale, at the same time that it carries out the logistics operation, with the capacity to integrate all the links of the value chain. It is also controlling shareholder of Eco-Energy, responsible for about 16% of the ethanol market in the United States. By acquiring one of the top ethanol companies in the United States in 2012, Copersucar has become a world leader in the commercialization of biofuel.

In logistic, Copersucar ‘s strategy for sugar is based on the investment in multimodal terminals for storage and transportation of this commodity, as in Ribeirão Preto, São José do Rio Preto, and the terminal in the port of Santos, with a capacity of handling 10 million tons of products.

First considering the main groups in SP, it is notorious for the existence of an internal market for ethanol commercialization operated by them regarding their purchase power. Small and medium groups sell the production to these marketers that operate mostly on exportation in the external market. As the presence of these larger groups is recent in the SP state, they also bought established mill processors aggregating their production on the sector. The list represents the mill processors (small and medium sizes) that can be part of the portfolio of commercializing groups when buying products, as Table 9 - Ten largest ethanol producers in the southeast region and their respective total milling amount in harvest 2006/2007 (UNICA,2018) details.

6.5. Micro Context

6.5.1. Main Competitors

For writing a project the type and number of competitors are core aspects considered. After a careful research we understood who Dr.Cana´s competitors are and what they are offering. So two main facts were evident, the improvement in more suitable service´s design, and marketing stand out, were core competencies missing. It is also important that Dr.Cana´s managers set prices competitively and help clients to respond to marketing campaigns with their initiatives.

We will use this research to create marketing strategies to take advantage of the competitors’ weaknesses, and improve our business performance assessing any threat posed by both new entrants to agriculture consultancy market and current competitors. Therefore it will help us to be realistic about how successful Dr.Cana services can be.

The sugarcane sector as all agriculture sectors is in constant development considering industry and field processes and its necessities. Changes constantly happen on management, by the acquisitions and fusions of mill plants from different international and national groups. Also, the environmental law and new technologies are in constant update influencing directly every business or enterprise operating in this sector.

Changes on the environment affect a client when deciding to request or not for new consultancy services. At the moment that clients assign a contract with a consultancy firm or individual consultant, its management team needs to be aligned with the decision taken. Groups with more consolidated management framework tend to understand better their necessities and require precisely for services when needed.

Currently, many consultancy firms in Brazil have targeted agriculture, and specifically soybeans, corn, cotton, and sugarcane crops for the development of their services. In the national territory, there isn´t any firm as Dr.Cana, which is willing to delivery agricultural, technical and managerial services via one platform for one specific crop. Dr.Cana can be compared to an insurance model once the services are requested on a long time perspective (one year). Thus, reviewing firms in the sugarcane industry, we found three competitors operating closer to our service system, regarding its experience and solid presence.

6.5.1.1. DATAGRO

DATAGRO has been for 35 years in the agriculture market with a range of consultancy services subdivided into eight business sectors. DATAGRO Alta Performance is one of them, providing services to the sugar, ethanol and energy fields.

Internationally, the group operates in more than 40 countries while this group variance of services in sugarcane chain is recent and has an important impact for those who are already DATAGRO´s clients or simple for its recognized performance related to agribusiness. The main focus of services is economical, as common in the biggest agriculture consulting firms in the world. The necessity of services first come on financial, market data and managerial factors, and after there is an extension to improve more specific areas, as field production and industry.

Considering its competencies, DATAGRO concentrated its activities in five offices - São Paulo (SP), Ribeirão Preto (SP), Santos (SP), Recife (PE) and New York (USA), where it provides tools for a better understanding of the market, adding value to the strategic and commercial positioning of its customers. The DATAGRO has advised private companies and governments on initiatives related to energy planning (in ethanol, gasoline and other biofuels), deregulation, integration and trade disputes in the United States International Trade Commission and the World Trade Organization. In addition, DATAGRO works continuously to diversify the agro-energy industry and the development of biofuels in different countries around the world.

DATAGRO's customer base consists of agricultural producers, trading companies, banks, fuel distributors, input suppliers, governments, investment funds, logistics companies, and information agencies around the world. Regarding to Table 10 – DATAGRO profile (the author, 2018).

6.5.1.2. Canaplan

Canaplan has been working in the sugarcane sector for 31 years. This agribusiness firm is operating in the links of productive sugarcane chain as planning, production technology and marketing, which together with partners, allows the company to collaborate in the various areas of the sugar-energy segment with a technological approach. The firm is based on Piracicaba (SP) where the crop productions first started in the SP state, and currently is a notorious region of technology development.

Canaplan also has an office in the city of São Paulo. Throughout its activities, the company has established several strategic partnerships, notably with Bioagência and LMC International, many companies based in São Paulo (SP) and Oxford (England). Canaplan operates with three important fronts. Canaplan Safra Project is based on a sample that accounts for 65% of the sugarcane processing in the Brazilian Center-South, the monthly reports of the Safra Project bring unique agricultural and economic analyzes of the sugarcane harvest. Canaplan Meetings explain harvest forecasts and have as a differential a dynamic approach to the current agricultural and economic aspects of the sector. Canaplan Podcast spread information for the agriculture sector, as its website better describes. Regarding to Table 11 – Canaplan Profile (the author, 2018).

6.5.1.3. CTC

CTC was founded in 1969 in Piracicaba (SP) for Copersucar S.A. focus on research and development of the sugarcane crop. Until today develops large-scale technology for sugarcane, focus on biotechnology and development of cultivars. Regarding its period of creation, the national Pro-Alcohol program was the main goal of the CTC, concluding on many projects of production optimization and automation control of mill plants. This institution is also listed on Bovespa in the city of São Paulo.

Currently, the Sugarcane Technology Center S.A. (CTC) board of directors approved the creation of a wholly owned subsidiary in the United States, which will continue the company's strategy to accelerate the research and development of plant biotechnology in sugarcane. Even so, CTC already owns one of the largest banks of genetic assets (germplasm) of sugarcane in the world, with more than 4 thousand varieties.

The headquarter is still based on Piracicaba (SP) with more than 17 genetic poles of research and sale offices spread on states of Mato Grosso do Sul, Góias, Minas Gerais, Paraná and Bahia. Its operations are focus on the development of four areas in sugarcane; the use of biotechnology in the development of new varieties, innovation in the method of planting the crop using artificial seeds, the development of 2G ethanol technology and Palhaflex, a technology that collects and processes sugarcane straw for bioelectricity generation. Focusing on its services, CTC greatest value is to license sugarcane varieties to producers and mill groups, so royalties are the main source of revenue. Any other technical assistance service provided is offered to customers who use the varieties and is already included in the royalties' prices. Regarding Table 12 – CTC Profile (the author, 2018).

6.5.1.4. Individual Consultant

Once we understood how those companies are operating, it is crucial to comprehend the individual consultant who delivers services in different areas of expertise. Consultants in the sugarcane sector have similar characteristics, such as: working for decades in one specific area of the chain, working on a public institution as researchers or university professors, being managers for long periods on a mill group or multinational. The profile also follows a deep understanding of years on harvests performance and delivered related projects to clients.

It is common after achieving specific acknowledgment the person becomes a consultant and consequently mentoring a few followers on projects, from that consulting firms are created in different areas of the agriculture chain, as examples Herbicat, Csolos, IDGeo, AgroAbdo, DMLab and many others.

The technological expertise here is our main competitor, and considering the three companies described before and the individual consultant, we created a table to support our competitive advantages towards competitors and pipe information to our market analysis that will also be crucial when targeting clients. Therefore we graded from 0 to 5 seven relevant features, as 5 is the higher it can achieve and 0 the lowest point.

Table 13 - Competitive Analysis Table

Competitive Features	Dr.Cana	DataAgro	Canaplan	CTC	Individual Consultant
Effectiveness for sugarcane	5	3	4	3	3
International presence	1	5	2	2	3
Renowned consultants	4	1	4	4	3
APP and online contracting	3	3	1	1	0
Cohesion of projects	5	4	3	0	0
User-Friendly/Easy request	4	2	2	2	1
Localization (SP)	5	5	5	5	4
total	27	23	21	17	14

Source: the author, 2018

6.6. Porter´s Analysis

Porter´s five forces are described as an analytic model that highlights five power drivers influencing the shape of any industry. Those forces when first defined also determine the industry´s weaknesses and strengths according to Michael Porter´s book published in 1991.

This model is frequently used for managers while shaping an industry structure and determining their corporate strategy. It plays on five different dimensions of the industry power such as competition, new entrants, suppliers, customers and substitute services in this industry, in addition to always measuring the impact of each of them. For a structured analysis, we are using three levels of relevance and they are Low, Medium and High.

Competition in the industry

The important aspects here are related to the competitors, Canaplan, DATAGRO, CTC and the individual consultants of a specific area, as well as their ability to threaten Dr.Cana consultancy.

The individual consultants are recognized for their projects results on deforestation, irrigation, soil degradation, pesticides, development and use of different cultivars, software for process optimization and many other areas. They also bring out the opportunity of solving one specific problem of the production process with a higher price for the service, that means, you can develop and implement a consultancy project for one area, but the price you are paying for this project is higher, once you have to pay for each problem of the company another consultancy project. There is a way of saving and being more efficient on problem resolution, and Dr.Cara framework brings many advantages.

Clients seek out a company's competition if they are unable to receive a suitable deal. If they realize the opportunity of cohesion of services on a consultancy framework by a month fee, the reduction of operating costs would be highly recommended by managers causing another positive point in the competition. It is expected that individual consultants and consolidated firms may create scope agreements but as the sector is still in development the follow up of clients and agility to respond to their necessities are still positive points for our advantages and success.

Dr.Cana competitive rivalry is low; the firm has greater power to do what it wants regarding its business strategies achieving higher sales and profits in partnership with companies and multinationals clients. Also, the competitors are not directly offering services on the way of our business once they are providing important project resolutions for clients. Thus, we consider the competition in the industry evaluated as Medium.

New entrants into the industry

The power of Dr.Cana is also affected by the strength of new entrants in the agriculture consultancy industry. Once a competing service is launched, the less time and money it costs the easier it is to sprout more competitors. Thus the market of our firm becomes more weakened and affects our innovative idea of service by losing value considering established consultancy in related markets. Time plays an import role here for being the pioneer recognized in the sugarcane sector as the best consultant firm.

Considering Dr.Cana without a direct competitor, it gives the opportunity of becoming the most innovative agriculture consultancy in Brazil and South America. That explains the importance of Dr.Cana marketing campaigns, communication channels and presence in events of the sector which are part of our implementation plan. The faster we acquire core clients for our business, quicker we consolidate our success.

Entering into the consultancy market requires a sophisticated technical and managerial acknowledgment with years of experience from consultants. Agronomist and technicians may try to open a small firm of services in agriculture, but after a few failed projects regarding their lack of experience, those firms are not in force and close their doors. Not even considering the bureaucracy of opening a firm in Brazil.

Individual consultants do delivery a lot of specific projects for mill groups; it happens regarding the follow-up and partnership of them since the establishment of those groups, especially in the countryside of São Paulo. Renowned consultants are still doing that as a secondary professional activity, once they work in the public sector or have their agribusiness.

Regarding these two main aspects, we consider that there are more difficulties than facilities when becoming a consultant and consequently opening a firm as Dr.Cana. We evaluated as Medium to the threat of new entrants.

Power of suppliers

This area addresses how easily suppliers can drive up the price of our services, once they are consultants providing services at Dr.Cana. The power here is affected by the number of consultants with key aspects of the services, how unique these aspects are for our platform, and how much it would cost to Dr.Cana switches from one specialist consultant to another.

After analyzing the different consultants' background, we concluded that in all the cases Dr.Cana is boosting their technical and professional approaches. It is an asset to get a partnership with Dr.Cana, if you are a consultant from a related area of the sugarcane sector, it would be great to consider our strong marketing approach, updated communication tools and large networking in agribusiness. The switch and competition of consultants still do not exist in our firm. The zero rejection mark of partnership from consultants to work with Dr.Cana explains it.

Dr.Cana updates professionals in the agriculture sector throughout cutting-edge technologies, agility and the way of delivering responsive services to clients, and according to this reality, we considered the power of supplier's as Low.

Power of customers

Following the same dimension of power but on the client´s emplacement, it is reasonable the ability to drive services prices down related to how many buyers or clients we have, how significant each client is, and not less, how much it would cost a client to switch from a consultancy to another.

When analyzing the consultancy market, we faced multinationals and big groups of mills as our targeting clients. The support of their necessities is guiding the consultancy strategies in the firm. Those customers have the choice and bargaining power when contracting a consultancy service. It is a result of being the pathfinders of the sugarcane sector and maintained its current development. Like any other firm, we want to support their abilities and implement effective projects.

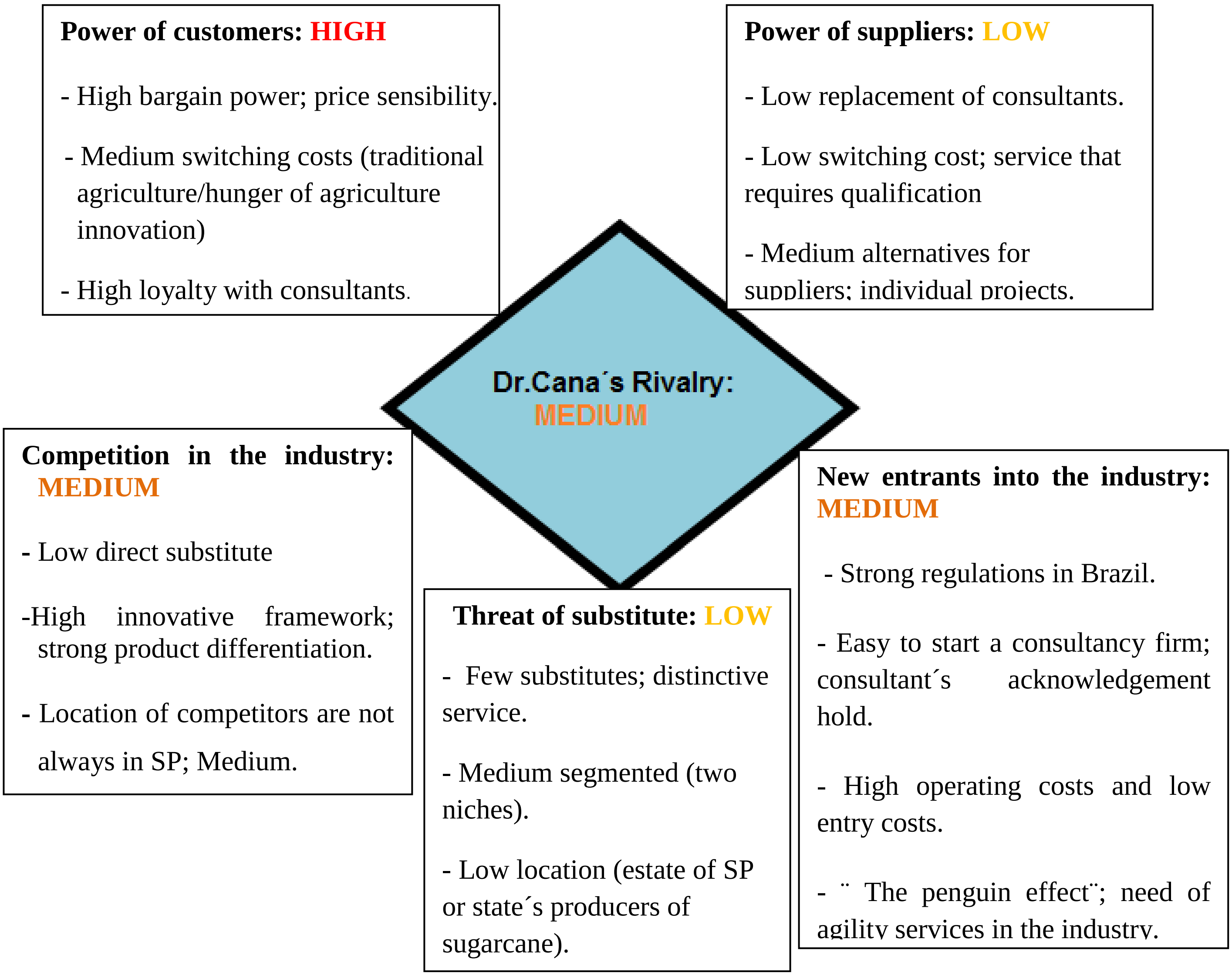
The individual consulting still performance widely with the target clients; however, after the launch of Dr. Cana, we already scheduled visits to some clients, which reflects in a lack of expertise or efficient long-term results from competitor´s framework. Also, the smaller and more powerful is a client base, the more power it holds, the acquisition of core clients is the best influencing approach for our idea. Considering those aspects, we evaluate the power of customers as High.

Threat of substitute

For our business idea, the threat of substitute services is not significant considering our aim to replace traditional consulting. Clients rely on our idea to provide a service substituted to old consultancy style, or simply by not solving this problem on this year harvest and postponing for offseason.

The demand for sugarcane consultancy is expected to continue, and hence we think this force does not threaten Dr.Cana in the foreseeable future. Also, the substitution for Dr.Cana framework is fairly easy and low cost while consultancy firms' power becomes weakened. We concluded on a Low evaluation.

Image 6 - Porter´s Five Forces



Source: the author, 2018

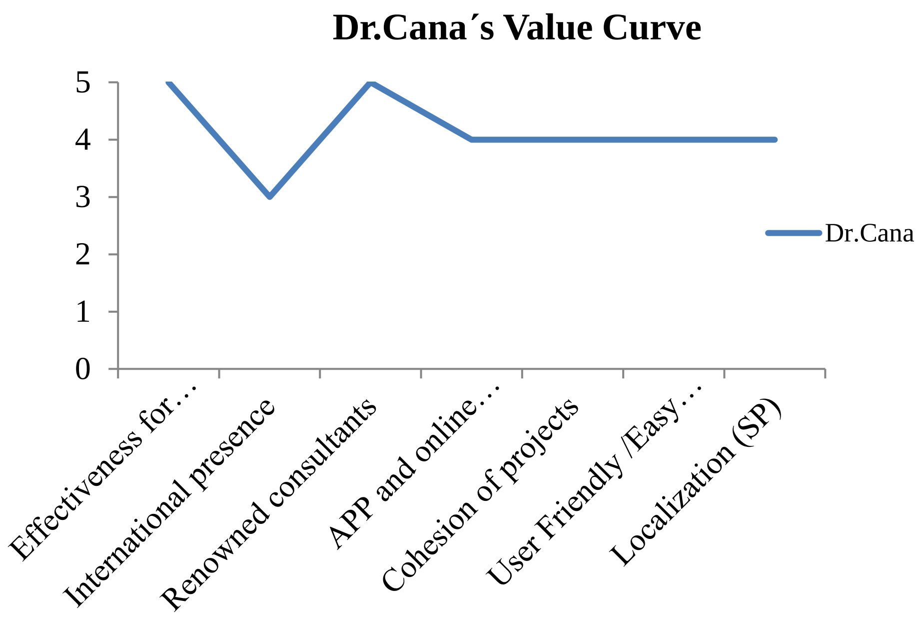
6.7. Canvas strategy

The Canvas model was designed to support business strategies and companies on their way to the success and become more profitable. Basically, on a graph, the Canvas Model is a picture of the industry landscape at that moment, where features between our business and the main competitors are evaluated. The results and curves aim to clarify what is happing to the industry´s marketplace by scoping our business´s curve, the profile of our current and potential competitors when focus to pursue their strategies and the profile of the industry with the selected features influencing the competition (Greenwald, 2012).

For the selection of the features the followed guide factors might be the most suggestive ones for the consultancy industry:

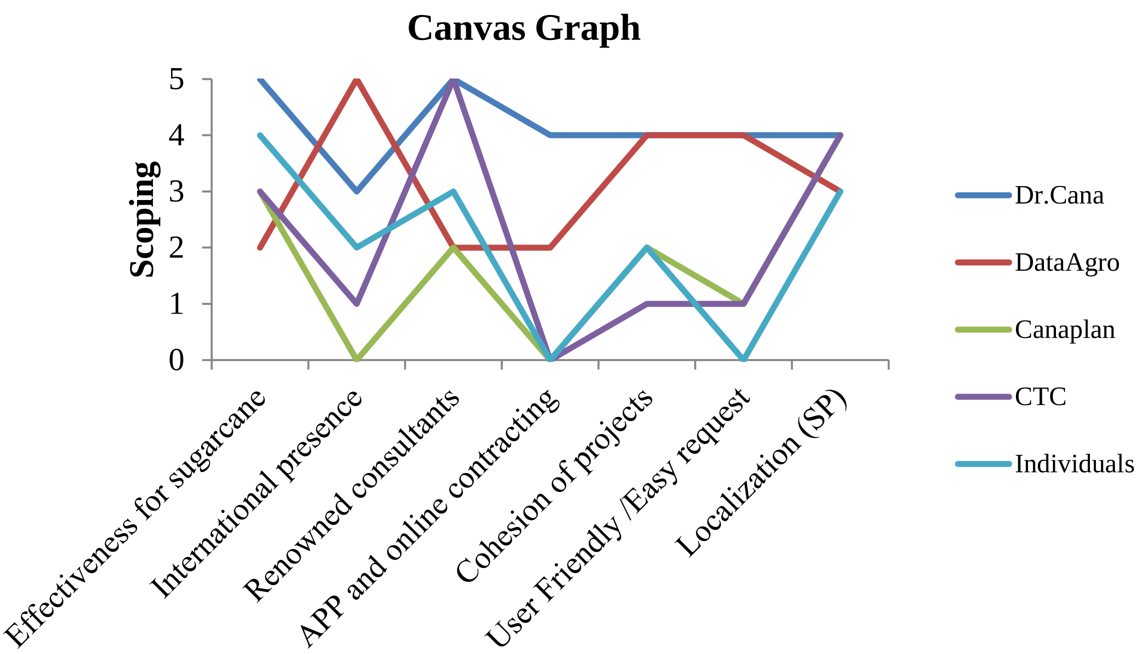
- *Service Effectiveness*: After the delivery and implementation of the project which are the outputs? Was our goal achieved? Are there still problems to solve? How satisfied is our client?
- *International Presence*: Is the firm or the consultants operating abroad? Are there expectative or future to develop the firm or service out of Brazil?
- *Renowned Consultants*: How qualified are the consultants? Are the people operating in the sugarcane field aware of them? Have they worked in the past together on projects?
- *APP and online contracting*: Does the firm or consultant have a website? Is the first contact easily done via internet? Is there a way of contracting online?
- *The cohesion of projects*: Is it operating in one specific area only? Are there more them three areas of projects cohesion? Does the firm have an audit system approach to the first client´s visit?
- *User-friendly/ Easy request*: How easy is to contact the firm or consultant? From the moment of the contact until scheduling a visit how long does it take? How is the follow up with clients during the implementation process?
- *Localization (SP)*: Is there an office based in SP state? Are the consultants based in SP state?

Graph 14 – Dr.Cana´s Value Curve



Source: the author, 2018

Graph 15- Canvas Graph



Source: the author, 2018

After creating this Empathy Map tool we aimed to match the needs of the customers with the offerings of the firm and to support a value proposition for Dr.Cana, that means, it is an innovative idea of how offering agriculture consultancy services.

6.8. Differentiation

Product differentiation is a marketing strategy exposing the differences between our services and others in the market, focusing on how we stand out from the crowd. Differentiation will make our services more attractive by contrasting its unique qualities when referring to competitors, as well as, creating a competitive advantage for our business idea. The list below describes aspects of Dr.Cana firm.

Table 14 - Creating Differentiation Table

Differentiation	
1.	The first integrated system of consultancy for sugarcane/ Attend all needs of the sector
2.	Renowned and highly qualified consultants/ Years on sugarcane field
3.	Month fee/Easy payment/Save on costs for clients
4.	APP and online contracting/ Cool and fun to use
5.	Weekly follow up of client´s account, credits and the services stages
6.	Agility on request and first visit schedule
7.	Presence on core agriculture events, meetings and fairs/Strong brand image
8.	Audit system on a first visit/ Focus in improvements on the farm or industry/Supportive approach
9.	Solid management and framework of consulting / Platform of operations/Use friendly
10.	Customer expertise and marketing departments/Clients ´support
11.	Networking and database of future and current clients
12.	Founders have decades of experience in the sector and are part of the consultant's team

Source: the author, 2018

Listing the competitive aspects of Dr.Cana, we recognize better our services propose to future clients. Thus we formulate a real image of Dr.Cana, as being unique on the market and gaining a competitive advantage over the market segment, which will be described further in the internal analysis.

7. Internal Analysis

7.1. Business concept

7.1.1. Dr.Cana Business Model

Dr.Cana main goal is to improve the national agriculture by delivering consultancy services to the sugarcane industry. We aim to provide a new experience for sugarcane producers and processors at the same time we are developing new technologies and framework for them. Dr.Cana follow up and service acquisition will happen by a platform as many other sectors are already working, for example when to order food, buy furniture, clothes or share a car, via APPs, websites with online contracting and social media.

Our services are delivered by renowned consultants in different areas of the sugarcane chain, from production processes at the field into environmental legal support and due diligence, trying to cover all necessities while making linkages of the different areas.

Therefore Dr.Cana creates value for any firm, as clients can find in one platform solutions for different and systematic problems. The acquisition of Dr.Cana works with the payment of a monthly fee and a credit system; one plan is for smaller clients and another for multinationals and larger groups. There are a limited number of credits that can be used per month and they are accumulated in one year period. We believe this is the best way of supporting our clients since our managers understand deeply how the sector operates and with our market research guidance.

We guarantee the best services; the final output and the credit debt ensure only when the final report is done in collaboration with consultants and clients. We also understand that some services are continuous and need to be implemented by steps. In this way, as the system rolls, Dr.Cana will improve different aspects of agriculture with more facilities and friendly use platforms.

7.1.2. Mission and Goals

The Dr.Cana business idea will provide a new consultancy on the Brazilian market with the aim of satisfying client´s necessities and lack of national development, as well as considering a unique added value and price sensibility to the market. Dr.Cana sets mission and goals that are planned to be pursued and efficient for the firm, clients and partners:

- Add value uniquely comparing to all consultancy agriculture firms in Brazil

- Provide services for the whole sugarcane sector: producers, mill groups, multinationals, farmers and rural enterprises. The goal is to fulfill their needs, expectations, cover the lack of consulting services in Brazil and adapt to the progression speed because services are seen in a continuous perspective as well as in an integrated way. Consultants operate under Dr.Cana framework and quality standards. The mission is to achieve all types of enterprise on the sugarcane chain with a positive and responsive approach.
- Main focus will be the continuous follow up of clients by the use of their credits once a service is requested on the property or industry from its managers, technicians or property owners. This is an easy and comfortable system for clients once they can control their credits and services on the process. The aim is a positive contact during all stages when contracting a consulting service, to adapt the knowledge in a clear and easy way, managing stress or time pressure for making the process as satisfactory as the results.
- Information is a valuable asset. Dr.Cana has not only qualified people working for its success, but also it is a big networking provider. The years of experience from its consultants and managers are valuable for the development of a service. The sugarcane crop for Dr.Cana is seen from a long-term perspective, from harvest to harvest, as years pass and problems arise. That is expertise; having a broader view rather than a momentaneous solution, which is fundamental when working with agriculture and related areas.
- Provide technical, operational and managerial services under any difficulties and situation of the client´ business (an added value process to the business), which supports their improvements.

- *First visit*: after contracting Dr.Cana via internet a first visit is scheduled. The aim is to have an overall view of operation processes, enumerate the problems, and related areas that are influencing them. An audit system may support the core competencies of the business we are working together.
- *Plan type*: It is time to decide how much the client will need support. Dr.Cana provides two types of plans, GOLD and MASTER. The first one costs R$22.000, 00 with five credits to be exchanged for consulting services on a month, while MASTER costs R$32.000, 00 with eight credits per month. Multinationals may demand more than one plan per month and it is possible to provide a progressive discount after buying more than two plans. The Dr.Cana contract takes place for a year, if there is a renovation, there are no accumulate credits for next year. Currently, service platforms are operating in that way to boost the client´s satisfaction, and guarantee agility of services results.

- *Consultant's workplace*: The consultants always dislocate to the client business area; here all travel expenses are on behalf of the contractor. The interaction between the client´s teamwork and our consultant is essential and makes all difference in the final results. After collecting data, processes and client´s resolution, the consultant brings it all to Dr.Cana managers in Ribeirão Preto. There is where the magic happens, the fusion of acknowledgments and exchange of experiences shape a complete consulting project.
- *Implementing time*: While implementing the new operating system or specific project, there is a need for checking and testing the process and the consultant does need to keep visiting and making contact with the area supervisor. The implementation time varies with the amount and type of service required. The service is only ended when a final report is developed and delivered to the client.

- To deliver great quality and reliable consulting services while being one of the best agriculture consulting firms in Brazil, where consultants are qualified and already recognized in the sugarcane sector by the main entities and groups. Consultants have a lot of experience on its services at different national areas, focusing on a specific area of operation. Our consultants are passionate about their job and able to share this passion with all clients.
- The market analysis justified the most important aspect expected, which is the integration of different levels of sugarcane chain considering crop production and procurement. Those are the goals and missions of Dr.Cana idea that should be fulfilled to reach competitive advantage.

7.1.3. Dr. Cana Operational Framework

For supporting consultants work and providing the best experience to clients a few steps became crucial on our operations, and they are credit system, an organized catalog of services, audit system on the first visit, simple platform for clients requesting, weekly follow up of credits and 24H services assistance. For a better understanding of how the requesting process occurs see the diagram in Image 9 - Dr.Cana´s Framework (the author, 2018).

If you are a new client, you can subscribe online or via APP considering the size and type of the business. The services ´ catalog is online and if necessary, you can always ask for our support when choosing the GOLD or MASTER plan that will be better described on item 7.3.2 of this thesis.

After scheduling the first visit, it consists of an *audit system* including a deeper analysis of the general situation of the business towards previous production records; check-in leasing contracts, with the purpose of confirming the quantity and quality of the leased areas, and many other specific areas regarding the type of businesses we are dealing with and its systematic problems.

In this way, Dr.Cana´ framework can be seen as insurance for the clients, once it is a continuous services provider, systematic and exist for the need to control risk in any area of the sugarcane sector.

7.1.4. Dr.Cana resources and capabilities

The consultants of Dr.Cana are qualified professionals with at least 5 years operating in an area of consulting, as well as, experienced different harvest seasons in sugarcane, hit high results on core projects of the sector, have in mind the future request and necessity of services, good communication skills and committed with Dr.Cana framework and managers are crucial.

To be part of a marketing department or be a manager in a speed growth consulting firm has to hold knowledge about the agronomic steps when producing a crop and also to be able to access news and important events influencing sugarcane chain directly, connecting them to the specific consultant and the operating area. Others important factors are environmental risk and climatic changes concerns when providing the services at the field.

Capabilities of the agriculture consulting firms are the ability to perform a great service, based on business´ knowledge, as factors connected to the business like agriculture national production, environmental risks at the field, processing industry, and agribusiness multinational in general. The founders play an important, without them the company cannot perform. Capabilities to perform are also licenses and legal rights conjugated with the permission to spread technology on specifics areas in Brazil.

Resources of agriculture consulting firms can be listed into intangible and tangible assets as follows.

Dr.Cana´s tangible assets are:

- Office in Ribeirão Preto with six furnished rooms*
- Five work computers *
- Two phones*
- Two vehicles *
- Marketing and report materials

Dr.Cana´s intangible assets are:

- Dr.Cana name and logo
- Networking and customer list
- Consulting firm licenses
- Insurance
- Shareholders agreement (Nunes and Abdo´ firm)
- Consultants are shareholders (0,1%); working contract as ¨Sociedade em Cota de Participação¨.
- Business knowledge
- Business operational framework
- Copyrights
- Dr.Cana website (www.drcana.com.br)
- Dr.Cana´s Logo. See Image 8- Dr.Cana´s Logo (the author, 2018).
- Presence in agribusiness fairs and events
- Partnership with notorious groups and multinationals
- Audit system
- Marketing and customer service team
- Mailing and ERP system

*already owned by founders, not new expenses

7.1.5. Survey: sample characterization and results

Conducting a survey is an unbiased approach to decision-making on business strategies as pricing, promotion, and distribution of our services for the target market. The survey will provide the collection of unbiased data and support on the development of sensible decisions based on analyzed results (Chaudhuri, 2014).

Survey sampling is a selection of elements from a target population. For conducting our questionnaire, a stratified sampling involved the selection of a subset of the sugarcane sector population. From this set, elements possess one or more common attribute related. Thus, the sugarcane sector is the basis for the analysis, but for reducing sampling error, we defined that the analyzed elements of the population are classified as enterprises which are **Sugarcane Consulting Services Users**, defined on Image 10 - Set Sampling (the author, 2018). From that, we will get a certain set of information and results (Chaudhuri, 2014).

According to Dr.Cana´s consultants and managers that are operating in this industry for years, all type of elements requesting for services are aggregated as Multinationals, Farmers, Cooperatives and Mill Groups. From analyzing those four elements of this survey, our goal is to add value to the agriculture sector, once reliable data sources are scarce.

Although the formulation of research requires a reliable measuring instrument and validity, which reflects on the quality of the results obtained. Based on our cross-sectional research we formulated questions that met our need for customer information, and the pool of survey items was generated according to a literature review of related researches and questionnaires, namely, Sosnowska (2016) and Almeida (2012).

We achieved a total number of 34 responses when 48.3% represented Mill Groups, 25% Multinationals, 25% Farmers and 1,7% Cooperatives, evidencing the need of the services mostly on the Mill Groups. These survey results are at Annex 3 – Chart 1 (the author, 2018).

The clients´ businesses are already operating from 5 to 30 years in the sugarcane sector since 75% are between 15 to30 years old and 25% are between 5 to 15 years old, which shows the long term perspective when approaching theses firms. Also only 87, 5% of these firms are using or used consulting systems until now according to the survey results at Annex 3 – Chart 2 and 3 (the author, 2018).

Focusing in business strategies like developing the loyalty with Dr.Cana´s clients and brand awareness, the survey explained that 92,3% of the businesses are with a constant partnership with an individual consultant or a consulting firm, and they receive more than 8 visits per year. The time and money saver opportunity of Dr.Cana applies for those aspects. The most requested areas of services are: Varieties of Sugarcane and Soil, according to the survey results Annex 3 – Chart 5 and 6 (the author, 2018).

Another factor that will guide us for developing next marketing analysis are that 75% of the responses believe on the efficiency of an agricultural advisory system in sugarcane where all their services needed in consulting are available for their request, while 18,8% just don´t believe because they do not know any service like that. These survey results are at Annex 3- Chart 8 (the author, 2018).

Also regarding the constant follow up with clients by consultants and the Dr.Cana´s report system implementation, 60% responded that the tips they receive from a contracted consultant related to others relevant problems to the consulting area (increase the productive potential) are their greatest satisfaction for hiring any type of consulting. Competing with only 33% of responses on safety services, which means, they cared less on having a person or firm that really knows how to solve definitively and effectively the problem, as the Annex 3 – Chart 9 (the author, 2018) explains.

7.2. SWOT Analysis

The SWOT analysis tool identifies core aspects when creating a competitive advantage and developing the goal formulation of our business. It leads us throughout different factors and dimensions at that specific moment of the market, when we try to understand how the business idea takes shape at the industry market. Basically SWOT lists the good and bad points about the business, both from an internal and external viewpoint as the items described above.

7.2.1. Strengths of Dr.Cana

- Agribusiness is becoming technological in many operational processes as geo-referenced mechanization, operational systems on the processing industry and managerial processes. Following that asking for consulting services via platform provides agility in the sector. Dr.Cana is the first consultancy platform in Agribusiness updating consulting framework.
- Afte a brief market research we understood that economic solutions are worth for the sugarcane sector, a month fee system with accumulative credits turns consulting flexible and better for clients.
- The APP is a tool for any business which aims to be close to your client´s necessities. An innovative framework with closer clients contact, organized operational processes, constant follow up of services and a cooperative final report, only create higher advantages to both sides.
- Dr.Cana has services for the whole sugarcane sector; it fits for all sugarcane chain improving processes and linkages.
- The use of a platform and the constant follow up for clients turns easy to acquire and control credits on Dr.Cana.
- Having a marketing and customer experience teams provides the best experience for consulting services users.

7.2.2. Opportunities for Dr.Cana

- Growing concern about innovation in agriculture as in any other business sector. Innovative approaches, techniques and processes improve results and develop the country.

- Growing demand for sustainable and technological friendly services. Sustainability is connected to all aspects of our lives, how we manage trash, reminiscent products and combings. To organize and control production are the first steps to improve processes on the field, solving problems efficiently, while connected to future opportunities on this area.
- Due to financial crisis in Brazil, people search for the most economical solutions also in agriculture. The monthly plan and credit system support the money saving on the services.
- Once you get in touch with Dr.Cana team explaining the size of your business and what are your priorities on services demand, it becomes easy contracting via internet or APP.
- Agility and improvement are necessary in agriculture regarding the world demand for products and also environmental risk management. Lack of services with a strong framework for agriculture consulting is a fact.
- Extend the services to others crops, it is seen with potential expectations from managers regarding Dr.Cana´s future operations. The survey sustains this idea as well.

7.2.3. Threats of Dr.Cana

- IBCO and municipal regulations influence during the consolidation of a consulting firm. It is necessary updated documentation and to be responsiveness to the area in which we are operating.
- According to the dimension of our operations and the number of services requested initial investment by founders will be provided to boost the system and retain more clients.
- Agriculture is an old established sector and resistance to innovation may arise from different directions since the modern approach with clients to the way we deal with improvements in the field.
- People’s association of a higher cost for more technological framework can influences when contracting and understanding the added value of Dr.Cana idea.
- Client´s old partnership with another consulting system on the market can influence the trade off of acquiring Dr.Cana or not instead of the old system.
- Seasonal problems on the field (pests, rain, soil degradation and others) may change operations during a project.

7.2.4. Weaknesses of Dr.Cana

- A subscription plan of Dr.Cana is a greater step for a client on managing consulting in his or her business. It requires a higher investment by the clients regarding the operations department.
- The contract covers 12 months and the client must pay Dr.Cana´s fee for the same period.
- Consultants are independents and have delivered services in other consulting firms or as individual consultants. Dr.Cana firm´s values must be followed and the consultant must be highly committed with framework once he becomes part of the team.

Table 20 -SWOT Analysis table

Strengths:	**Opportunities:**
• First consultancy platform in Agribusiness • Economic solution (monthly fee) • Tip technology (agility and time saver) • Innovative framework • Concern about the sector (sustainable) • Promoting better and efficient outputs • Fit for all sugarcane chain • Easy to acquire and control • Marketing and customer experience teams	• Growing concern about innovation in agriculture • Growing demand for sustainable and technological friendly services • Due to financial crisis, people search for the most economical solutions • Easy contracting via the internet • Lack of services with a strong framework in agriculture consulting • Extend the services to others crops
Weaknesses:	**Threats:**
• High initial investment by the clients • The commitment of clients with Dr.Cana during one year period • Consultants are independent /Firm´s values must be followed	• Strict IBCO and municipal regulations • Initial investment by founders to start the business • Resistance to innovation by clients • People’s association of a higher cost for the more technological framework • Old partnership with another consulting system on the market • Seasonal problems on the field (pests, rain, soil degradation and others) /Extend the service period

Source: the author, 2018

7.3. STP

The STP model demonstrates the links between the market and our firm, and how we choose to compete in this market. It is referred to as a process, with segmentation conducting first, then the selection of one or more target markets and finally the implementation of positioning. Its main goal is to guide us on an appropriate *marketing mix*, which the next items explain.

7.3.1. Segmentation

The market segmentation is a process of splitting a market into smaller groups which are similar in services´ needs or others identifiable features. The purpose is selecting appropriate target markets for Dr.Cana. On B2B markets to set up market segmentation is different comparing to customers, a few aspects change as: the market has a more complex decision-making unit (managers and departments), clients are more rational (bigger demand or avoid risk regarding the size of services request), services are often complex, also B2B target audiences are smaller than consumer target audiences, personal relationships are more important and clients are long-term buyers (Pereira, 2014).

About agriculture consulting market, Dr.Cana aims to deliver the services to the sugarcane producers in Brazil, and focusing the attention on this most challenging part, we identified three major criteria to segment the market: Geo-demographic, Socio-economic and Behavioral, through four specific variables: geographic, occupation, customer turnover and purchasing.

Table 15 - Segmentation/Criteria table

Criteria	Variable
Geo-demographic	**1.**Geographic (Place)
Socio-economic	**2.** Occupation **3.** Customer turnover
Behavioral	**4.** Purchasing (Innovative in agriculture)

Source: the author, 2018

7.3.2. Targeting

Target market selection is when a firm´s proactive select a suitable market segment (or segments) with the intention of heavily focusing the firm´s marketing offers and activities to this group of related clients.

Considering the criteria, we can step further to target Dr.Cana´s market with Geo-demographic, Socio-economic and Behavioral approaches.

1. Geographic (Place): Dr.Cana launch is in SP state, but the close future is to extend the services to whole Brazil and South America.
2. Occupation: We are talking about consulting in agriculture, so firstly we define rural farmers, mill groups, multinationals and cooperatives that have the main operations on the countryside of SP and out of the cities. Namely, the fields of production, industrial plants and offices are located in the rural region.
3. Customer turnover: Even though there is an economic instability affecting Brazil and its development, the sector is based in one of the richest national areas. We consider our clients´ budget very high regarding the complexity of the services, problems, and size of demand in a B2B context. Our target is any agriculture enterprise with annual billing between R$3 Million- R$ 90 Billion.
4. Purchasing: Related to all the ways of practicing consulting in agriculture, it is clear that to change for a new framework as Dr.Cana, demands curiosity and a willing for innovation. We consider that our clients are aware of technology and see the system in a positive and update way for the future of their businesses, recognizing the need for technology for a better performance.

Table16- Targeting /Variable and Target Table

Criteria	Variable	Target
Geo-demographic	1.Geographic (Place)	1. SP countryside(Brazil)
Socio-economic	2. Occupation 3. Customer turnover	2. Rural enterprises and farmers 3. R$3 Million- R$ 90 Billion on annual profits (High)
Behavioral	4. Purchasing (Innovative in agriculture)	4. Sugarcane innovations buyer and technology users

Source: the author, 2018

❖ Client´s Profiles

For the consolidation of the Dr.Cana´s Market Target, we described two possible client´s profiles.

Image 7 – Two Client´s Profiles

Name: **Orpheu Group**

Place: started in Araraquara (SP), Brazil.

Occupation: 2 mill plants, one in Araraquara other in Morro Agudo (SP).

Profitability: R$38 millions in 2016.

Purchasing: Use of operational systems (industry) and 89% mechanized (field). Always open to new updates in technologies.

Business Model: The Orpheu Group milling capacity is 15 million ton per harvest. It has 740 employees and 75% of its sugarcane raw material comes from suppliers.

Name: **Mario´s properties**

Place: 5,000ha of sugarcane and 1000ha of orange in 3 different properties. Barretos (SP), Brazil.

Occupation: Rural farmer

Profitability: R$5 millions in 2016.

Purchasing: Mario and his son Augusto have 3 properties geo-referenced by the Leica Geosystem (Swiss Company). Augusto studied Agronomy at UNESP-FCAV and he participates every year of harvest optimization events in Brazil and USA.

Business Model: An Orpheu Group´s supplier (tenant). Six employees in total.

Source: the author, 2018

Orpheu Group is the typical sugarcane processor in the countryside of SP state. It has more than one plant with high milling capacity and group´s properties also support the lack of raw material (sugarcane) from tenants. On a harvest season, the industry can also operates overnight shift. It has already 740 employees, two plants and 900ha on properties in São Paulo (SP) and Mato Grosso do Sul (MS) states. The goal is to increase profitability by building a new mill plant in Rio Brilhante (MS) until 2023. The group always provides continuous personal and technical improvement to its managers and technicians by affording its presence on main events of sugarcane in Brazil; it is a way of making them aware of trends and new techniques on the sector regarding national and international competitors.

Mario´s properties are one of the thousands of tenants in Brazil. It is a rural family business with currently two different crop productions, orange and sugarcane. According to the historical they have been shifting from a crop to another, and on the 70´s, Mario´s father was one of the 10 top producers of coffee in SP state. The business expectation is to give 100% of the area until 2020 to Orpheu Group as a tenant, and receive their fixed amount per month. Mario and August are willing to buy a new property in Paraguay where prices are lower, and they can produce soybean on a large scale. Aware of opportunities and technological trends in agriculture, they´ve joined YouAgro APP and made a point of attending every year Agrishow in Ribeirão Preto-SP.

Here we have outlined two different profiles of the variety of potential customers for Dr.Cana Thus, creating key features for the profiles the necessity for a more in-depth analysis came up.

Targeting the specific groups of Dr.Cana suggests directly on the amount of money they are willing and making available for consulting services, also considering that they have a monthly cost plan to follow from their business operations, as our survey explains.

Concluding our market analysis, the most important types of rural enterprises which are determined to be Dr.Cana´s clients are *Mill Groups*, *Multinational Groups*, *Farmers* and *Cooperatives*. For the table below a rage of three different enterprises values in each group was analyzed.

Table 17 -Target Groups Table

Target Group	Annual Profits*	Annual Consulting Expenses*	Most requested Area of Consulting*
Mill Groups	R$ 10-330 Millions	R$15.00,00- 13Millions	**1.**agricultural management **2.**varieties of sugarcane **3.**soil
Multinational Groups	R$ 2-90 Billions	R$180.000,00-55 Millions	**1.**cultivation **2.**mechanical maintenance
Farmers	R$3-65 Millions	R$0-980.00,00	**1.**agricultural management **2.**cultivation **3.**environmental and agricultural taxation
Cooperatives	R$ 5-270 Millions	R$0-3,5Millions	**1.**capaciting and vocational training **2.**varieties of sugarcane **3.**cultivation

*range of three groups values Source: the author, 2018

7.3.3. Positioning

The positioning process is the target market´s perception of the service, its main benefits and features. It is related to comparable offerings from competitor´s services and the creation of our unique value.

The Dr.Cana business idea is offering a responsive and high-qualitfied service with a big added value. For that, the marketing strategy should justify its plans´ prices. Thus Dr.Cana will focus on creating a competitive advantage in a long-term perspective rather than only beginning positioning.

Based also on the consultant meetings, manager experiences and our survey we discovered sugarcane sector lacks of improvement, client´s willing and necessities to conclude the product positioning.

For our unique place in the market, we defined our business as ¨ Dr.Cana is the first technological platform influencing a new way of accomplishing agriculture services in Brazil. It is the pioneer to hold continuous credit system focus on the client's satisfaction and the industry´s necessities. We work for any sugarcane enterprise bringing it to a higher performance level. We support all processes like milling, environmental legislation, field production, agricultural management, and the training of qualified teams for greater results. Our concern is to be sustainable and responsive while implementing our services to the agriculture field and creating new future possibilities for our clients´ businesses. We aim to be useful, practical and supportive for our clients. The improvement of the sector is what guides our managers and consultants ¨.

7.4. Marketing Mix

7.4.1. Product

Product Characteristics

The services characteristics were adapted by the segmentation and target market done previously. After understanding the main services requested by each type of group clients we can develop a more detailed catalog of services.

Considering the numerous range of services we aim to provide, the creation of different categories areas, a catalog were necessary to make it easier for any client´s request. The catalog will be available on our website and APP, providing an integrated program for the sugarcane crop.

The following list explains the Dr.Cana´s 15 categories and 156 services. From that, a client has an overview of problems and solutions while picking a service from our catalog. Here is important to highlight that a service can continuous longer than one month period. After the credit of a service is debited on the client´s account, there is no issue about the delivering time of the service (more or less than a month), and sometimes a long period for a project occurs on the process. A few services as you can follow above may require higher credit amount than the month accreditation of the plan, meaning that the time of this service is also longer.

Product Descriptions

Dr.Cana´s services are:

1. Agricultural Management: consultancy services on management, planning, budget and costs. See eight services descriptions and credits value on Table 29 - Agricultural Management Services (the author, 2018).

2. Varieties of Sugarcane: provides one of the highest gains in a sugarcane agro-industry when integrated with logistic processes. See seven services descriptions and credits value on Table 30 – Varieties of Sugarcane Services (the author, 2018).

3. Harvest Mechanization: for more details on cutting, transporting, transshipping and stepping in the harvest with pilot use, see six services descriptions and credits value on Table 31- Harvest Mechanization Services (the author, 2018).

4. Harvest Plantation: for solutions on mechanical planting, meiosis and accelerated cane multiplication see twelve services descriptions and credits value on Table 32 – Harvest Plantation Services (the author, 2018).

5. Quality of Raw Material: investing in raw material quality leads to significant ATR (total recoverable sugar) gains. For more details on more sucrose program, see three services descriptions and credits value on Table 33 – Quality of Raw Material Services (the author, 2018).

6. Soil: soil quality directly influences the gains of ATR and the development of the crop. For more details on systematization on soil conservation for mechanization, and classification of soils and production environments, see eleven services descriptions and credits value on Table 34 - Soil Services (the author, 2018).

7. Laboratory Analysis: physical and chemical analyzes of sugarcane as Brix, Broth Pol, Cane Pol, fiber content, AR, ATR, Purity and others. See details of laboratory and nematode analyze services and credits value on Table 35– Laboratory Analysis Services (the author, 2018).

8. Cultivation: Production of organic and organomineral fertilizers, complementary and foliar fertilization of sugarcane, others. See four services of correction, fertilization and wasted descriptions and credits value on Table 36 – Cultivation Services (the author, 2018).

9. Phytosanitary Defense: to be free from pests see more details on pest control, weed control management and best spraying techniques services. There are fourteen services descriptions and credits value on Table 37 - Phytosanitary Defense Services (the author, 2018).

10. Precision Agriculture and Irrigation: development and creation of projects in both sectors. See sixteen services on satellite image, Use of variable rates, MPB irrigation, automatic pilot and irrigation of the sugarcane fields on Table 38 - Precision Agriculture and Irrigation Services (the author, 2018).

11. Mechanical Maintenance: maintenance of machinery and equipment has been increasingly important for reducing costs and increasing productivity in sugarcane plantations in Brazil. See twelve services on maintenance office, vehicles, machinery and equipment on Table 39 - Mechanical Maintenance Services (the author, 2018).

12. Biomass: see six specialized projects on sugarcane energy and straw on Table 40 -Biomass Services (the author, 2018).

13. Capacitating and vocational training: better performance throughout qualified operators and technicians. See fourteen courses on Table 41 - Capacitating and vocational training Services (the author, 2018).

14. Environmental and Agricultural taxation: legal services especially for the sugar-energy sector. In this area, the services are always *per property*, as the credits are valued. See 18 services related to INCRA, environment governmental bodies and IRS on Table 42- Environmental and Agricultural taxation Services (the author, 2018).

15. Special projects: related to fusion and acquisitions, general planning and productivity recovery on Table 43 – Special projects Services (the author, 2018).

This organized way of valuing the services is new in the market for consulting firms in agriculture. It is one of Dr. Cana's biggest points of distinction from main competitors. However, they already have an online catalog that is often incomplete and confusing, with no price information. Thus, it is not difficult to conclude that much work must be done in this area for the consulting sector, once we know that our competitors are consolidated firms in agriculture.

7.4.2. Pricing

The price is a reflection of the value of a service considering the elements that participated in providing it. It will influence profits directly to the firm and also the way the services are seen by the clients we aim to reach. The price is a differentiator from competitors and also reflects the quality, the delivering experience and the added value that a business is providing to them. The price of Dr.Cana services will be set on the value-based pricing, which is based on the combination of the quality on result and service at a fair price. For setting the perfect price, we would take into account the business fix and variable costs, better explained on item 8. Financial Evaluation.

Being a new consulting idea reflects on price would not be that high for Dr.Cana plans, because the type of consulting firm is new on the market, and customers do not have any similar comparisons. Also for gaining the trust of our clients , the price must reflect the quality of services and not less considering the quick deliver processes.

Regarding the sugarcane sector the reasons connected with price sensitivity are:

- Dr.Cana´ services are distinctive from the product of competition.
- Dr.Cana’s offer aims at the greater perceived quality on a long-term perspective.

- No direct substitutes on the market for fast approach on consulting services.
- The difficulty of making the comparison, once any firm is an integrated consulting system.

Considering all these aspects, the Dr.Cana firm will set the price on the services based on the price that consultants were offering before doing a partnership with Dr.Cana. As known, Dr.Cana´s consultants already have experience in the sector and delivering projects either as individuals or with specialized firms, so after realizing meetings for becoming partners we set the lower price strategy.

As the demand for services rise on quantity and having in mind that Dr.Cana creates brand value for consultants with a resilient framework when billing, marketing and customizing projects. So, consultants lowered their prices for being integrated into a secure operational platform. Meeting consultants helped in two core aspects for our idea: The creation of the service´s catalog with categories (described previously) and, when pricing the services.

The current 16 consultant’s partnerships resulted in 16 different agreements regarding prices and operational strategies with all of them reducing at least a minimum 20% off the original prices of projects. Thus with the consent of all, and for our basis of financial calculation in this firm project, when a service is concluded, 70% of its value is paid to the responsible consultant. As the demand grows and also the number of clients, we aim to restudy the possibilities with our consultants.

Also supporting the price setting research of the **main competitors’ price for a sugarcane consulting service** was conducted**.**

The range of consulting services in the sector is large and it was not easy to access competitor´s price for the comparison. Thus we assumed one service for the comparison analysis, once this service is provided for the four main competitors and has a high level of the client´s requests. So it is ¨*Choice of ideal varietal stock and recommendations* ¨for an area of 200ha.

Table 18 - Service Price Table

1. DataAgro Alta Performance: **R$ 16.700,00**
2.Canaplan: **R$ 14.200,00**
3.CTC: **R$13.750,00**
4. Individual Consultant: **R$12.000,00**

Source: the author, 2018

Valuing services and Price strategy

The price strategy must act in benefit to support the Dr.Cana launch and create real brand awareness, so our services should have relative differentiation on the market for being a pioneer platform of consulting services.

Based on our survey and the target market, a skimming price strategy was chosen to pricing Dr.Cana´s service. We will charge the highest initial price that customer will pay, and only after the demand of the first customers is satisfied, the services prices can be modified or lowered, we also consider to access all clients´ segments of this industry (Nyaga, 2017).

After analyzing the price of competitors that we were able to access, set commissions with consultants and describing potential costs that must be covered by Dr.Cana, the next two steps are: shape the value of each service on a credit system, and finally set the prices of the promotional plans paid at a monthly basis for clients.

Table 19- Dr.Cana subscription plans

❖ MASTER	❖ GOLD
- **Five credits** per month to be exchanged for consulting services for the production of sugarcane. **Monthly** **R$ 22,000.00**	- **Eight credits** per month to be exchanged for consulting services for the production of sugarcane. **Monthly** **R$ 32,000.00**

Source: the author, 2018

Both plans types MASTER and GOLD are contracted via website or APP while travel expenses stay on behalf of the contractor. Progressive discounts are possible when purchasing a minimum of two plans representing our service customization. This last case can occur more often for mill groups and multinationals clients. Competitors are operating the same way regarding those travel expenses, and they customize only the consulting services.

Taking in account Dr. Cana´ competitors pricing , it's unanimous the fact that there is no systematic way of requesting a specific consulting service and getting the price for that instantaneously, most of them have well designed websites with a lot of information about business partners, concluded projects for clients, sugarcane sector news and only general information about services or areas of expertise, with no settled prices. Anyway, you can always send a message asking for more information via the website. That is a great way of customizing services to different types of business but, on the other side, it losses loyalty for a client´s first approach, and also agility (time saver on solving a problem) for do not defining what the consulting firm can provide on services and prices. Other aspects are taken in consideration as the need to organize technical support, work materials, with a lack of information on their client speech.

7.4.3. Promotion

As Dr.Cana still is in a development stage, the firm at the beginning will focus on low-cost promotional strategies grabbing them to the defined target market. The goal is to create the brand awareness, build Dr.Cana´s image and attitudes toward its consulting services to influence agriculture client´s behavior. Regarding the constant follow up with clients and customizing discounts, the aim is to maintain high customer satisfaction and strong relationship, as well as, finding new possibilities to promote and gain trust based on easy and quick communication.

Channels

Emailing: Two different nature of mailing will be sent by the marketing team, one is the services, the consultants and the Dr.Cana framework presentations. Services related to real problems of sugarcane plantations on the current harvest and the most requested ones in agriculture consulting will be highlighted via e-mail, and consecutively project´s results already achieved from Dr.Cana consultants of this area. Consultants will record a video of 1 minute telling about their experiences, professional area and a brief personal presentation. Also, a video of Dr.Cana framework and plans will be developed and send to our future clients. Those are our presentation e-mails.

The second type of e-mailing is after contracting Dr.Cana, once you are a client, you will receive weekly e-mails with your current credits on account, projects on execution and already done ones, where you can follow your accumulated credits. Also, we are going to suggest future services regarding the consultant's final report from the last service. Those are our follow up with client via e-mails.

Website: On our website, you can find it all and also start an online chat with the customer expertise team. Services catalog is there with the following credits, type of plans and consultant´s presentations.

Cana Online: We outsourced a marketing group to boost brand awareness. Cana Online is a digital agribusiness magazine. It can be followed via website, or the reader can download the application for free and enjoy interactivity such as videos, audios and gallery of images. The firm performs a daily clipping and also stands out for the real-time coverage news; its Facebook page has an average visualization of 100 thousand per week. We aim to strengthen Dr.Cana awareness on agriculture sector.

Events

Agrishow Fair: It is an international agricultural technology fair held in Ribeirão Preto. It is considered the second largest fair of the type in the world and the largest in Latin America. The first edition occurred on May 4, 1994, and to present Dr.Cana there is a way of expand our networking.

IDEA Group: The group develops different sugarcane events during the year, we aim to be part of them and present Dr.Cana as an alternative consulting system for the sugarcane production chain.

7.4.4. Distribution

Dr.Cana has one way of achieving clients, which is via APP and website both via internet. Even when there is a presentation standard in an event or fair, we will explain to future clients how to operate with Dr.Cana platform via mobile and desktop. We believe that is the best way of keeping the relationship and solving any doubts about our idea once this is the most updated way of delivering services. A customer expertise team of two people will be always present to explain Dr.Cana´ catalog, framework and support the internet contract.

7.5. Main strengths of Dr.Cana & consumer expectations

As mentioned previously lacks of improvement are faced when planning and controlling the crop chain processes. First, many unforeseen events still take place regarding the transportation of the raw material to processing at mill plants, specifically the accurate information about time and day from suppliers. Well-managed groups reduce this problem. Second, the industry is also getting constant updating and new machines, considering the processing of bagasse, an alternative energy, and the ethanol 2G. Third, we have another lack when implementing the new processes; a trained team is required for those new functions, as well as, on the management of different products outputs (bagasse and energy). Our clients are aware of them and constantly search for consulting services in the areas, and Dr.Cana is able to provide them.

Willing of clients is more than finding a solution to their managerial and technical problems, they do need agility, precision and clear organization on the business processes. Also achieving productivity goals and following cost planning forecasts are strong issues for clients, currently the sector went through a period of great economic difficulty and many costs were cut, including consulting. To build a good and trusting relationship is a willing of many clients on the sugarcane chain during processes of optimization and secure services.

Necessities are present on the whole chain, since the training of professional staff, processes of the Human Resources departments when hiring people, the losses of outputs during transportation, as well as, managing production wastes and having more sustainable approaches on the field are namely the biggest necessities. Dr.Cana has been positively active on these aspects.

7.6. Opportunities

Brazil is an in-development economy with lacks of infrastructure, products and services. One characteristic here is the opportunity of starting a new business in different sectors regarding the acceptance and necessity of the society, in agriculture is not different.

Agriculture is demanding high technology investments and marketing strategies, and São Paulo state is the center of all of that when focus in the sugarcane crop. The industry is undergoing a transition from leaving old-style to high-tech approaches.

Getting connected and being fast to respond to clients is how we translate the future of any business, and for us, being one of the firsts with this tech approach in agriculture can create a lot of opportunities in the future. Dr.Cana managers believe that time, positive contact and responsive services change everything. Once it is easier and nicer to make contact, it is easier to be part of something and we do wish that many clients be part of our platform.

8. Financial Evaluation

As mentioned previously on item 7.4.2. Pricing, we settled the fix and variable costs of the Dr.Cana business.

Costs

1. *Consultant´s commission*: 70% of credit value for each service concluded.
2. *Salary of Marketing and Customer Experience team*: R$32,000.00 (2 members) for the first year. We are going to use the office structure from one of Dr.Cana´s founder in Ribeirão

Preto (SP), where there are already staffs operating for his other firm. Expenses with cleaning and office administration will be zero for the first three years. As the volume of requests increases, we consider hiring more people. For marketing campaigns, a specialized firm will be contracted.

3. *The costs of maintaining the office*: Zero. Ribeirão Preto office is established for one of the founders who is already operating another business there. Office maintenance costs are paid by his other business on the first three years.
4. *The costs of participation in events*: Zero. The presence of main events of the sector by IDEA group is provided for free to Dr.Cana.
5. *The costs of marketing materials*: R$ 17,000.00 per year, regarding Table 28 - Marketing Details (the author, 2018).
6. *Clients' budget and necessity to have the services*: market analysis.
7. *ERP system and App*: R$8,000.00 per year.
8. *Managers*: transportation and food only, since they are Dr.Cana´s owners.R$6,000.00 per year.
9. *Outsourced Marketing firm (Cana Online):* R$5,000.00 per year. As better described on item 7.4.3.

   Total costs: R$68,000.00 (or R$ 5,666.67 per month) **for the first and second years.** Regarding Table 26- Costs descriptions (the author, 2018).

For the monthly profit of the Plans, we also considered:

- *Consultant travel expenses* on behalf of the contractor.
- *Dr.Cana's fix income per service*: Regarding our analysis and managers experiences, we assume that a client requests an **average of 3 services per month**. For the average credit value for each category of services see from Table 29 to Table 43 (the author, 2018).
- *Consultant´s commission*: profit distributed to consultants is 70% of the value of service concluded.
- Valuing services´ credits on Dr.Cana framework regarding consultant´s meetings and managers experiences.

Considering the subscription plans of Dr.Cana platform, the MASTER plan is more profitable than the GOLD plan for our business, as Table 21 - Profit Margin Table (the author, 2018) explains. Profit of Dr.Cana was calculated per service to GOLD and MASTER plans. The consultants' commissions are always paid when the service is concluded, at a fixed rate of 70% of the service value. Also, there is no limit for the number of plan´s subscriptions of a client, target groups as

Multinationals and Cooperatives need a bigger demand of services and they can contract more than one plan per month via website or APP.

8.1. Dr.Cana's Profit and Loss Statement

The Profit and Loss Statement will be predicted for five years from the launch.

The estimations were made as if each client requests an **average of 3 services per month**, based on the business know-how. The sugarcane crop needs services all over the year, we do not consider any seasonal period (harvest or offseason), and we assume that the services will be demanded on a constant volume during the year.

Based on the information of the average number of clients held per year from our consultants´ old businesses, which is 4 clients on one specific consulting area, and regarding the Dr.Cana´s 15 areas of services, we decided to calculate the revenues from the maximum amount of 55 services per year, which didn't give us an exaggeration of income.

The number of services will be slowly increasing every year once the Dr.Cana plans are very attractive for our target market, and they can apply to general consulting agriculture in a the future according to Table 22- Annual Plans´ Subscriptions (the author, 2018). We aim to open Dr.Cana services for other crops after the third year of the launch. During the first year, as mentioned, we will consider 55 services and for the second and third year, we will add a gradual increase of around 15% per year on services subscriptions. For the fourth and fifth years we consider a gradual increase of subscriptions around 30% per year, since we aim to be operating for other crops and regions, we also will fix the re-contracting rate of 100% for those years.

The rates are based on two facts. First, our survey evidenced a strong necessity of services like Dr.Cana. That was clear understood while receiving positive feedback after contacting future client´s to answer the questioner. For our surprise, many of them still do not contract agriculture consulting services, and they are interested in the benefits of it, as well as, how a firm like ours could optimize their current business. Second, the annual growth rate of Brazilian energy sector demand. As Graph 9 – OTTO-Gap energy cycle (m3 Equivalent Gas) (CNPE, 2017) details.

Also regarding our survey and client´s demand dimension, we concluded that 60% are MASTER plan subscribers and 40% are GOLD plan subscribers.

The expenses after the third year will change considering:

- One more member to the Customer Experience team - R$ 16,000.00 per year.

- A manager for supporting IT solutions and supervise the Customer Experience team – R$ 52,600.00 per year.
- Take on some Maintenance *Office costs* as energy and kitchen expenses - R$ 3,400.00 per year.
- **Total: R$72,000.00 add expenses after the third year.** As Table 23- Annual Profit and Loss Statement (the author, 2018).

Table 24 – Dr.Cana´s Profit and Loss Statement

Dr.Cana Profit & Loss Statement

September 2018 –August 2023

Income	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
MASTER	R$522,720.00	R$617,760.00	R$712,800.00	R$934,560.00	R$1,140,624.00
GOLD	R$316,800.00	R$360,000.00	R$417,600.00	R$547,200.00	R$691,200.00
Total Income	R$839,520.00	R$977,760.00	R$1,130,400.00	R$1,481,760.00	R$1,831,824.00
Total Expenses	R$68,000.00	R$68,000.00	R$140,000.00	R$140,000.00	R$140,000.00
Taxes	R$262,316.80	R$309,318.40	R$336,736.00	R$456,198.40	R$575,220.16
Profit/Loss (Net Income)	**R$509,203.20**	**R$600,441.60**	**R$653,664.00**	**R$885,561.60**	**R$1,116,603.84**

Source: the author, 2018

The table above describes the firm´s revenues on a five years period. For the first two years total expenses are lower regarding not included costs that were mentioned previously. Those costs are only included in the end of the third year. Taxes in Brazil for our consulting firm are 34% in income as Table 23 – Annual Profit and Loss Statement (the author, 2018) explains. For the second year compared to the first, we observed an increase of more than R$ 100,000.00, on the second and third year the profit remains similar. There is a significant increase on net income on the fourth and fifth year.

9. Implementation plan

For the success of Dr.Cana, an implementation plan was developed and will support when organizing meetings, scheduling important events, defining business strategies and launching of our services on the agricultural market in Brazil. For the following months and year 2019, Dr.Cana´s willing is to improve day-by-day its framework, and learning while solving problems for clients.

The calendar of implementation has already started in JAN /2018 when the two founders first had the consulting idea as you can follow on Table 27 –Tasks (the author, 2018).

1. *Business Plan Development:* for around a month the founders of Dr.Cana debated in Ribeirão Preto (SP) the Dr.Cana idea, both of them had a concern after working decades on the sugarcane industry, which was to connect more information, people and technology.
2. *Board Meeting I:* The two founders started analyzing the main services provided in the sugarcane sector, comprising the problems resolutions, talking about their expertise, and also share knowledge considering their current consulting firms.
3. *Board Meeting II:* The Dr.Cana idea was established and the consultants considered to be part of the firm were selected by those days. The main concern in this period was the approach, contracting form and speech to create partnership advantages for the consultants.
4. *Consultants´ Meeting I:* Sixteen consultants were invited to the event in Ribeirão Preto (SP), the idea was explained and debated also considering their concerns about the sugarcane industry and contributing by explaining which services they had been operating on their consulting areas.
5. *Consultants´ Meeting II:* The catalog of Dr.Cana was developed, as well as, the price of each service with the support of the consultants. More than 150 services were created for firm operations.
6. *Consultants´ Meeting III:* The partnership acceptance was unanimous, and the contracts were signed by the sixteen consultants. Also, their data were provided as bank accounts, national fiscal identifications, addresses and others. That was the consolidation moment of Dr.Cana as a consulting firm.
7. *Open Online Contracting:* The website and the APP started operating and it was already possible to subscribe to a MASTER or GOLD plan.
8. *Partnership with Cana Online:* Cana Online firm was hired to spread Dr.Cana idea in the sugarcane sector and support the creation of the brand awarness.

9. *Local Approval (SP state):* After a long waiting period, the approval arrived via post, and consultants could start scheduling visits as Dr.Cana received a client request.
10. *Launch of Dr.Cana at an IDEA event:* The launch of Dr.Cana was at the¨ Mechanization¨ event of the IDEA Group.
11. *ERP team training:* The two members of the marketing team had a system operations training including how to update networking data and how to create client´s profile after the subscriptions.
12. *Emailing future clients:* We brought together all the future clients contacts and developed a presentation letter by email and sent to each of them. More than 1000 emails were sent
13. *First subscription:* We got the first multinational client, its demand was high and it subscribed to two MASTER plans.
14. *First visit to the Client:* One manager and three consultants did the first audit system visit together at the client´s agricultural main office, a report was developed for guiding consulting services necessities for this client.
15. *Second subscription:* We already received a large number of contacts and we anticipate having a second client very soon.
16. *Second visit to the Client:* After the subscription, the first visit will be scheduled.
17. *Translate APP /website (EN /ES):* The marketing team will work for translating the APP and website. This thesis will support them with the English version of the services´ catalog.
18. *Consultants´ Meeting IV:* We will meet consultants to discuss the current clients, projects and report system implementation. We aim to strengthen our framework. It is also a Christmas meeting of the firm.
19. *Board Meeting III:* The managers will meet to analyze Dr.Cana profits, operation processes, framework, the consultant´ behaviors and future projections for the firm.
20. *Consultants´ Meeting V:* We will meet to talk about the firm´s new projections and expand the team.

Table 25 – Implementation Plan

YEAR	2018												2019	
MONTHS	JAN	FEV	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
Business Plan Development	■	■												
Board Meeting I		■												
Board Meeting II		■	■											
Consultant´s Meeting I				■										
Consultant´s Meeting II					■									
Consultant´s Meeting III						■								
ERP team training							■	■						
Local Approval (SP state)								■						
Launch of Dr.Cana at an IDEA event									■					
Emailling future clients									■	■				
Partnership with Cana Online											■			
First Client Contract												■		
First visit to Client												■		
Second Client Contract													■	
Second visit to Client													■	
Traslate Website and APP to EN/ES														■
Board Meeting II														■
Consultant´s Meeting IV														■

Source: the author, 2018

10. Project conclusions

The Brazilian agricultural sector is changing and becoming more technological while diversifying final outputs for more sustainable agriculture. People in this sector are tending to be aware of the use of new technologies on their properties and businesses. Thus, to participate in a global agricultural system and not only a domestic market, consulting services are providing the best results on boosting rural enterprises' performance.

Sugarcane consulting services were always present in this sector, but on the latest decade they are not only tasks solvers in agriculture and business operations, there is also a need of integrating all processes of the crop chain with precision and focus on achieving deadlines to clients. The sector is calling for changes and updated tools to improve its performance. Therefore we concluded that managing services for clients is about providing efficient solutions with a constant follow up and support, so our services were defined to satisfy clients and the sector to the fullest.

We found a clear opportunity to grow in the sugarcane consulting market, not only in Brazil but at any place that produces and processes the crop, as a next move. After consolidating the framework, national services´ operations and training a good team of customer expertise, the agriculture sector will look for the same type of consulting extended to all other crops produced on large scale. That is a second expand opportunity to Dr.Cana, the future is to apply generally our services to agriculture focus always on field preparation, production and milling. The result is the increase of Dr.Cana services´ categories, client´s satisfaction, agricultural and economic development.

This master project studies the potential local market in the countryside of the São Paulo state, to match satisfactory clients´ necessities towards a Business Plan based on which our idea is launched. It was conducted an internal and external analysis towards Dr.Cana capabilities and resources to gain a competitive advantage. Economic, social, technological and environmental national factors were part of our business context and very significant for this thesis as well.

Developing market research for an agriculture firm was a challenging step, and not different, when introducing a new platform in the sugarcane market. The analysis reinforced Dr.Cana positioning, a brand with a reachable, sustainable and worth value proposal for related businesses which want to progress. To support that, we have developed two credit plans to meet the needs of the market and clients.

During this thesis and the business plan development, we understood some limitations that are important to consider. First, with the different types of clients, we faced resistance and not an open response to Dr.Cana from a few traditional producers. Second, in the Literature Review where is necessary theoretical background of business, it had limited regarding consultancy firms in Brazil, namely, the number of current national firms and its services types. And third, the access to competitors' information was very restricted, there is no consolidated structure of requesting a consulting service, no financial statement available, and most of them only give feedback if you are known by one of its clients. Their argument is that this is a way of protecting information and operations in Brazil.

Finally, the financial evaluation was developed to consolidate the prices of MASTER and GOLD subscription plans. They were set to cover the costs of operating, consultants´ commission, fix margin price and create profits. The MASTER plan is more profitable than the GOLD plan, even considering its monthly fee lower than the GOLD plan. The Dr.Cana profit and loss statement evidences no lose and profit increases year by year.

11. Areas of future research

For a future application, as a technological platform, Dr.Cana can be integrated with others social agricultural platforms as YouAgro and NovaCana, as well as, to develop partnerships with agro-tech startups. That may improve the presence of client orientation when providing any type of service in agriculture, once we concluded that this approach is just begging in Brazil and also in SP state. Strategic marketing champagnes are focus on agricultural clients, integration of consulting services with enterprises, while highlighting consulting benefits. Those are core concepts to be implemented. Clients need industry improvement regarding their performance but they still don´t know what exists to support them.

Once technologies as smartphones, modern electronic advices and internet connection are tools already spread in all social levels and regions in Brazil. There is an opportunity to transform people in agribusiness even better served about services, products, and informed about world trends, which create future opportunities for their businesses. We see personal empowerment missing for those people, which could be developed during basic school or a course on agricultural universities.

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TABLES

Table 1- List of benefits when business planning

1. *Connecting the dots*. The business plan gets a better picture of the whole B2B sales process that relates sales are approaching tactics to clients with profitable internal strategic alignment. A marketing campaign on a wrong agriculture event could fault results. In a short-term perspective would it be necessary a marketing campaign regarding the networking of Dr.Cana consultants? Is Dr.Cana covering costs, such as including long-term fixed costs, services development and work capital request as needed? The plan always remembers us to look at the big picture.
2. *Focus on our special identities.* The value proposition of the consultancy firms is the technical expertise, in this case, Dr.Cana managers propose agile consultancy services tailored to match the sugarcane market.
3. *Set priorities*. Every business has a beginning (launch), middle (development and improvement of services) and end or reformulation (open shares). For a Dr. Cana successful business planning it is a required allocation of time, effort and resources strategically. It supports us to track on right things on assertive moments.
4. *Improving changes.* As we develop the consultancy firm planning process, first assumptions, performance process, and capture of service developments will be updated to Dr.Cana's developmental stage. The annual business plan vs. an actual analysis will adjust the plan.
5. *Start accountability.* The strong planning process sets expectations and tracks results; it regulates the gap between what was expected and what happened to Dr.Cana. Unsuccessful and successful work shows up. A monthly plan reviewing tasks and accomplishments by the managers is a worthy tool regarding the business plan vs. actual analysis.
6. *Manage cash.* Dr. Cana is connected in cash flow. When sales on account, physical expenses, purchasing assets, consultants payments and repaying debts are involved (if exists), cash flow takes planning and management. Profitable businesses suffer from slow clients´ payments or too many services on once constipate cash flow. Dr.Cana subscription plan helps us adjust to it, regarding the monthly fee.
7. *Alignment.* Does the daily Dr.Cana performance fit the agile consultancy services proposition? If so, there is strategic alignment. Also, if we postpone client´s request and appointments, gaps of strategic alignment exist on our firm.

8. *Milestones.* Structured by humans and to deliver services to humans, it is necessary to achieve key goals (milestones) you can work towards. Like reaching a defined sales level, hiring that customer expertise manager, or outsourcing a web development firm. We work better when we have clear goals we can work towards.
9. *Metrics.* Put Dr.Cana performance indicators and numbers to track into the business plan where we can see them monthly in the plan review meeting. What are the numbers that matter to us? Sales do, but there are also calls, trips, seminars, web traffic, conversion rates, service cancelations, and others. We will use our business planning to define key metrics.
10. *Keep on track.* Realistic reminders to keep on track our framework. We want to do everything for clients, but sometimes is necessary to push back to maintain quality and strategic focus. Remembering the consultancy and the field processes priorities are important ones, while business planning process can become a regular reminder.

Source: the author, 2018

Table 2 - List of general problems when business planning

1. *Planning period is too long:* The best way to improve the business plan is shorter the time. Instead of planning three years from now, we should focus on the next months. Working in short periods and add a new value at each month's end would be easier to make adjustments.
2. *You write a plan not for yourself:* Most business plans are created to negotiate with banks, investors or public authority agencies. That can transform a set of arguments for the Dr. Cana future success (optimistic) and generates a lack of skepticism and risk assessment. In the end, it may transform the plan into a useless tool for management, which poorly describes the functioning internal plan.
3. *Disconnection of periods:* Dr. Cana´s everyday activities should be linked to its long-term strategies. Involve as many employees as possible in formulating the plan from the overall vision to the daily activities in Dr.Cana, to create the most solid platform for reaching the sales goals. That is an opportunity that many businesses miss.
4. *Unclear responsibilities*: To coordinate different functions becomes complex when the objectives and tasks change frequently. A clear division of responsibility is very important. Thus to introduce the "Business Developer", gives an overall responsibility for bringing about innovation and change in the firm. It is also

required to manage the business plan from itself for future operations.

5. *The world is not static*: There will be both positive and negative points. It can be possible that we will spend more time on developing our sales strategy than our marketing framework and client's feedback. Or we might sell more than we had anticipated. If that happens, it is important that Dr.Cana adapts to the new reality. We live in a time characterized by rapid changes and high tempo.

Source: the author, 2018

Table 3 - Participation of member countries in MERCOSUL GDP (%)

	2005	**2006**	**2007**	**2008**	**2009**	**2010**
Argentina	20.4	21.1	21.5	21.7	22.0	22.2
Brazil	77.0	76.3	75.9	75.6	75.3	75.0
Paraguay	1.1	1.1	1.1	1.1	1.1	1.1
Uruguay	1.5	1.5	1.5	1.6	1.6	1.7

Source: FMI, 2013

Table 5 - Ten largest producers of sugarcane in 2015

Countries	Production (thousand metric tons)
Brazil	739 267
India	341 200
China	125 536
Thailand	100 096
Pakistan	63 750
Mexico	61 182
Colombia	34 876
Indonesia	33 700
Filipines	31 874
USA	27 906
World	**1 877 105**

Source: FAO, 2015

Table 6 – Estimation of the sugar-energy sector GDP for harvest 2013/2014

Product	Domestic MARKET US$ (millions)	External MARKET US$ (millions)	TOTAL US$ (millions)
Ethanol Hydrated	12.861,31	590,65	13.451,96
Ethanol Anhydrous	8.890,08	1.075,71	9.965,79
Ethanol not energetic	654,85	-	654,85
Sugar	6.926,80	11.109,85	18.036,65
Bioelectricity	894,05	-	894,05
Bioplastic	90,00	210,00	300,00
Yeast and Additive	21,20	34,13	55,33
Carbon Credit	-	0,27	0,27
Total	**30.338,29**	**13.020,61**	**43.358,90**

Source: Markestrat, 2014

Table 4 - Brazilian agribusiness GDP - 2006 to 2018 in R$ Million

AGRIBUSINESS				
YEAR	**Agricultural (A)**	**Industry (B)**	**Services (C)**	**Agribusiness Total (A+B+C)**
2006	116.706	190.509	231.547	560.478
2007	132.320	200.897	257.227	618.054
2008	158.175	221.444	292.986	710.174
2009	143.669	235.750	305.003	717.330
2010	189.627	262.985	352.227	841.025
2011	235.961	271.945	370.099	920.264
2012	226.763	284.606	376.249	934.578
2013	253.961	305.060	411.187	1.022.027
2014	271.689	328.847	448.110	1.101.374
2015	293.230	365.235	515.425	1.231.419
2016	357.416	412.639	595.802	1.428.880
2017	357.896	410.440	588.717	1.418.778
2018	325.922*	418.727*	571.045*	1.379.972*

*statistical projections

Source: CNA, 2018

Table 7- Projection of the potential demand for ethanol (in billions of liters)

YEAR	2011	2012	2013	2014	2015
Domestic demand for fuel ethanol	23,7	27,8	31,5	36,2	40,8
Domestic demand for non-fuel ethanol	2,7	2,7	2,8	2,9	2,8
International Demand	1,8	2,0	2,5	3,2	3,9
Total Demand	**28,2**	**32,5**	**36,8**	**42,3**	**47,5**

Source: MME, 2015

Table 8 - Sugarcane milling/sugar and ethanol production - projections for harvest 2017/2018

States	**Sugarcane** (thousand tons)	**Sugar** (thousand tons)	**Ethanol Anhydrous** (thousand m³)	**Ethanol Hydrated** (thousand m³)	**Ethanol Total** (thousand m³)
São Paulo	357.142	24.591	5.963	7.260	13.223
South-Central Region	596.260	36.048	10.419	15.669	26.088
North-East Region	44.806	2.548	947	823	1.771
Brazil	641.066	38.596	11.366	16.492	27.859

Source: BNDES, 2018

Table 9 – Ten largest ethanol producers in the southeast region and their respective total milling amount in harvest 2006/2007

Unit	Ethanol (10/6 L)	Total Milling (10/6 ton of cane)
Da Barra	289.3	7.02
São Martinho	286.3	6.74
Santa Elisa	270.1	5.96
Vale do Rosário	230.6	5.49
Itamarati	230.0	5.08
Da Pedra	216.8	4.10
Equipav	214.0	4.43
Catanduva	212.4	3.91
Moema	198.3	4.41
Colorado	181.3	4.48

Source: UNICA, 2008

Table 22 – Annual Plans´ Subscriptions

YEAR	1	2	3	4	5
MASTER subscriptions	33	39	45	59	72
GOLD subscriptions	22	25	29	38	48
Total Annual subscriptions	**55**	**64**	**74**	**97**	**120**

Source: the author, 2018

Table 10 -DATAGRO profile

Analyzed Features	DATAGRO	
customer bases	-farmer -trading companies -banks -fuel distributors -input suppliers	-governments -investment funds -logistics companies -information agencies
offices	São Paulo, Ribeirão Preto, Santos, Recife and New York.	
areas of consulting	Strategic and financial, government advisory, events and conferences, high agricultural performance, market analysis, management and markets.	
important clients	USITC, WTO, Santander, Marsh Inc., XP Investimentos, BENRI, DEAG, GeoCane and CBCA.	
time of existence	35 years.	
list of services (catalog)	1. Strategic Consulting (7 services) 2. Financial (5 services) 3. Governments (on request) 4. High Performance (11 services) 5. Market Analysis (7 services) 6. Assisted Management (4 services) 7. Markets (DATAGRO database platform)	
crops	Sugarcane Cotton Corn Wheat Livestock	Soya Fruit and vegetables Flowers Orange Coffee
International presence	Yes, strong.	
Website	https://www.datagro.com	

Source: the author, 2018

Table 11 - Canaplan Profile

Analyzed Features	CANAPLAN
customer bases	- agricultural and industrial enterprises - chemical multinationals - farmers /sugarcane producers - mill groups - trading and financial agents
offices	São Paulo and Piracicaba.
areas of consulting	Technical and managerial services for sugarcane crop.
important clients	-Bioagência - LMC International - Range of farmers
time of existence	31 years.
list of services (catalog)	Evaluation, forecasting and follow-up of the sugarcane harvest, economic analysis, agricultural technical services, development and analysis of projects, market studies in the sugar-energy sector, support for the development of new technologies, events and meetings and Safra Project.
crops	Sugarcane.
International presence	Yes, weak.
Website	http://canaplan.com.br/

Source: the author, 2018

Table 12 -CTC Profile

Analyzed Features	CTC
customer bases	- multinationals - farmers /sugarcane producers - mill groups - biotechnology enterprises - research centers and institutions
offices	Piracicaba
areas of consulting	Varietal management (royalties) and Technological improvement
important clients	Odebrecht , Syngenta , Bayer, Raízen , Basf and Embrapa.
time of existence	49 years.
list of services (catalog)	Varieties of sugarcane, innovation in the planting method, artificial seeds, implementation of ethanol 2G technology and Palhaflex.
crops	Sugarcane
International presence	Yes, weak.
Website	http://new.ctc.com.br/

Source: the author, 2018

Table 21 - Profit Margin Table

Per Month	**MASTER (5 credits)**	**GOLD (8 credits)**
Fee	R$ 22,000.00	R$ 32,000.00
Fee /credit	R$ 4,400.00	R$ 4,000.00
1.Agricultural Management (6) *****	R$ 26,400.00	R$24,000.00
2.Varieties of Sugarcane (3) *****	R$ 13,200.00	R$12,000.00
3.Harvest Mechanization (4) *****	R$17,600.00	R$16,000.00
4.Harvest Plantation (3) *****	R$13,200.00	R$12,000.00
5.Quality of Raw Material (4) *****	R$17,600.00	R$16,000.00
6.Soil (2) *****	R$8,800.00	R$8,000.00
7.Laboratory Analysis (1) *****	R$4,400.00	R$4,000.00
8.Cultivation (3) *****	R$13,200.00	R$12,000.00
9.Phytosanitary Defense (4) *****	R$17,600.00	R$16,000.00
10.Precision Agriculture and Irrigation (3) *****	R$13,200.00	R$12,000.00
11.Mechanical Maintenance (4) *****	R$17,600.00	R$16,000.00
12.Biomass (6) *****	R$26,400.00	R$24,000.00
13.Capacitating and vocational training (1) *****	R$4,400.00	R$4,000.00
14.Environmental and Agricultural taxation (5) *****	R$22,000.00	R$20,000.00
15.Special projects (12) *****	R$52,800.00	R$48,000.00
Average of AREAS (4) *	R$17,600.00	R$16,000.00
Average Consultant commission/ per service	**0,7 x** 17,600= R$12,320.00	**0,7 x** 16,000= R$11,200.00
Dr.Cana´s Profit/ per service	R$ 5,280.00	R$ 4,800.00
***Dr*.Cana´s Monthly Profit / Per Client Subscription**	3 x 5,280 = **R$15,840.00**	3 x 4,800 = **R$14,400.00**

***( )** Average credit value for each category

Source: the author, 2018

Table 26 - Costs descriptions

Fixed Costs		Details
Consultant´s commission	70% of the service concluded value	According to the prices of an area project from the individual consultant.
Salary of Marketing and Customer Experience team	R$32,000.00 for 2 members	Based on national minimum salary of R$954, 00 for 13 months.
Office	-	The founder owns the space / Maintenance expensive is paid by his other business for the first 2 years.
Events	-	IDEA Groups events for free.
Marketing Materials	R$17,000.00	Flyers, standard on the events, papers and briefcases for consultants' reports.
Mangers´ Expenses	R$6,000.00	Travels, food and accommodations.
ERP system and App	R$8,000.00	ERP annual cost and App development.
Marketing Firm (Cana Online)	R$5,000.00	Firm annual cost.
Total	**R$68,000.00**	

Source: the author, 2018

Table 28- Marketing Details

Marketing Details	Expenses
Flyers and Catalogue impression (Client´s Visit)	R$2,000.00
Presence on 3 Idea Group events (one staff and Dr.Cana´s banner)	R$3,500.00
Freelancer designer for logo, website and analyze of printed materials	R$10,000.00
Briefcases and papers for consultant´s (Client´s Visit)	R$1,500.00
Total	**R$17,000.00**

Source: the author, 2018

Table 23 – Annual Profit and Loss Statement

Dr.Cana Profit & Loss Statement

September 2018 – August 2023

YEAR	1	2	3	4	5	total
MASTER *	R$522,720.00	R$617,760.00	R$712,800.00	R$934,560.00	R$1,140,624.00	R$3,928,464.00
GOLD *	R$316,800.00	R$360,000.00	R$ 417,600.00	R$547,200.00	R$691,200.00	R$2,332,800.00
Total Revenues	R$839,520.00	R$977,760.00	R$1,130,400.00	R$1,481,760.00	R$1,831,824.00	R$6,261,264.00
Expenses						
Consultant´s commission*	-	-	-	-	-	
Salary of MKT and Customer teams	R$32,000.00	R$32,000.00	R$100,600.00	R$100,600.00	R$100,600.00	R$365,800.00
Office	0	0	R$3,400.00	R$3,400.00	R$3,400.00	R$10,200.00
MKT materials	R$ 17,000.00	R$ 17,000.00	R$ 17,000.00	R$ 17,000.00	R$ 17,000.00	R$85,000.00
Events presence	0	0	0	0	0	
ERP system	R$8,000.00	R$8,000.00	R$8,000.00	R$8,000.00	R$8,000.00	R$40,000.00
Managers´s support	R$6,000.00	R$6,000.00	R$6,000.00	R$6,000.00	R$6,000.00	R$30,000.00
MKT firm(*Cana Online)*	R$5,000.00	R$5,000.00	R$5,000.00	R$5,000.00	R$5,000.00	R$25,000.00
Total Expenses	R$68,000.00	R$68,000.00	R$140,000.00	R$140,000.00	R$140,000.00	R$556,000.00
EBITDA	**R$771,520.00**	**R$909,760.00**	**R$990,400.00**	**R$1,341,760.00**	**R$1,691,824.00**	**R$5,705,264.00**
Depreciation**	0	0	0	0	0	0
Amortization**	0	0	0	0	0	0
EBIT	**R$771,520.00**	**R$909,760.00**	R$990,400.00	R$1,341,760.00	R$1,691,824.00	R$5,705,264.00
Taxes***	R$262,316.80	R$309,318.40	R$336,736.00	R$456,198.40	R$575,220.16	R$1,939,789.76
Profit /Loss	**R$509,203.20**	**R$600,441.60**	**R$653,664.00**	**R$885,561.60**	**R$1,116,603.84**	**R$3,765,474.24**

* Value already discounted from total revenues Source: the author, 2018

** Tangible assets were purchased before the firm foundation - owner´s properties. No loans.

EBITDA– Earnings before interests, taxes, depreciation and amortization /**EBIT**- Earnings before interests and taxes.

*** IRPJ (15%) plus (10%) considering annual surplus upper **R$240,000.00**; CSLL (9%). Total taxes 34%.

Table 27- Tasks

Task Name	Start Date	Duration
1.Business Plan Development	15/01/2018	25
2.Board Meeting I	08/02/2018	2
3.Board Meeting II	28/02/2018	2
4.Consultants´ Meeting I	10/04/2018	1
5.Consultants´ Meeting II	12/05/2018	1
6.Consultants´ Meeting III	16 /06 /2018	1
7.Open Online Contracting	20 /06 /2018	1
8.Partnership with Cana Online	21 /06 /2018	1
9.Local Approval (SP state)	27 /06 /2018	62
10.Launch of Dr.Cana at an IDEA event	05 /09 /2018	2
11.ERP team training	08 /09 /2018	4
12.Emailing future clients	13 /09 /2018	30
13.First subscription	14/09/2018	1
14.First visit to the Client	17/09/2018	1
15.Second subscription	20/10/2018	1
16.Second visit to the Client	21/10/2018	1
17.Translate APP /website (EN /ES)	05/11/2018	5
18.Consultants´ Meeting IV	18/12/2018	1
19.Board Meeting III	20/01/2019	3
20.Consultants´ Meeting V	10/02/2019	1

Source: the author, 2018

Table 29 -Agricultural Management Services

Rental and suppliers: Evaluation and development of strategies for the management of leases, partnerships and communication with suppliers (tenants).	**Credits** **4**
Budget: Evaluation of the agricultural budget - calculation, apportionment, outsourcing.	**3**
Outsourcing: Pre-project for outsourcing services.	**6**
Harvest planning: Harvest planning as a profitability tool (integration of maturation growth curve and harvesting operations).	**10**
Costs: Determination of the standard cost for sugarcane production / ABC cost analysis, key and critical performance indices.	**8**
Performance indicators: "Benchmarking" of performance indicators / Check up of agricultural KPIs.	**5**
Technical management of sugar cane production: Agricultural management of blocks by productivity targets and ATR.	**8**
Checking the quality of services: -Diagnosis, evaluation and choice of priorities. -Personnel training and system implementation in prioritized activities. -Evaluation of results and feedback to management.	 **5** **8** **2**
Average of credits per service	**6**

Source: the author, 2018

Table 30 - Varieties of Sugarcane Services

Varieties Program: Evaluating of performance and determination of the economic result of commercial varieties.	**Credits** **6**
Varietal management blocks in integration with harvest logistics.	**4**
Strategies for maximizing varietal performance.	**2**
The choice of ideal varietal stock and recommendations.	**3**
Training in selection and evaluation of new cultivars.	**3**
Varietal management in situations of sugarcane bis, ripening, flowering, stress, frost and irrigation.	**2**
Final comparison program of new cultivars of breeding programs.	**4**
Average of credits per service	**3**

Source: the author, 2018

Table 31- Harvest Mechanization Services

Cutting, transporting, transshipping:	**Credits**
-Gains adequacy of cane transport.	**5**
-Gains and adequacy of mechanized harvesting system.	**8**
-Assistance in the implementation of the 10H shift.	**7**
-Fuel consumption analysis and reduction strategies.	**3**
Stepping in the harvest with pilot use:	
-Evaluation of cane trampling by harvesters (800 ha)	**1**
-Evaluation of cane trampling by transshipments (400 ha)	**1**
Average of credits per service	**4**

Source: the author, 2018

Table 32 - Harvest Plantation Services

Mechanical Planting	**Credits**
-Analysis of planting operation and quality of planted areas.	**3**
-Training of field teams and supervisors for mechanized planting.	**3**
-Guidance for standard operating procedures.	**4**
-Analysis of results and reviews.	**1**
-Adaptation to reduce spacing in mechanized planting process.	**2**
Meiosis	
-Detailed Meiosis Planning	**4**
-Meiosis Planting Training	**3**
-Follow-up of Meiosis planting	**2**
-Use of MPB in Meiosis	**2**
Accelerated cane multiplication	
-Diagnosis, planning, techniques and methods of rapid multiplication	**4**
-Team training - concepts and operations	**3**
-Evaluation of results and correction of multiplication stages	**2**
Average of credits per service	**3**

Source: the author, 2018

Table 33- Quality of Raw Material Services

More Sucrose Program Diagnosis of interfering factors in ATR	**Credits** **7**
Project for recovery of lost or potential ATR	**4**
New Strategies for Harvest Planning	**2**
Average of credits per service	**4**

Source: the author, 2018

Table 34- Soil Services

Systematization and soil conservation for mechanization: Diagnosis of layout blocks and furrow lines	**Credits** **3**
Planning of the blocks and the furrow lines within a conservation system	**4**
Preparation and conservation procedures by type of soil	**4**
Training for topographer and supervisors	**3**
Choice of methods and equipment for soil conservation and preparation	**2**
Classification of Soils and Production Environments: Classification, mapping of soils for allocation of varieties (400 hectares)	**1**
Training for collecting soil samples	**1**
Diagnosis to improve the soil preparation and conservation	**2**
Training in interpretation of soil charts	**1**
Identification of production potential for crop expansion	**3**
Basic training for identification and mapping of precision agriculture	**2**
Average of credits per service	**2**

Source: the author, 2018

Table 35- Laboratory Analysis Services

Laboratory and nematode analyze: Training for soil sampling in the elaboration of the Vinasse Application Plan	**Credits** **1**
Analysis of 40 soil samples for the elaboration of the Vinasse Application Plan	**1**
Training for the collection of soil and root samples for nematological analysis	**1**
Analysis of 36 soil samples for qualification of production environments (chemical and physical analyzes) - (equivalent to approximately 250 ha)	**1**
Basic analysis on 100 soil samples	**1**
Basic analysis + S in 80 soil samples	**1**
Nematological analysis (30 samples)	**1**
Average of credits per service	**1**

Source: the author, 2018

Table 36- Cultivation Services

Correction, fertilization and waste Soil recovery techniques	**Credits** **3**
Production of organic and organomineral fertilizers	**5**
Economic and proportional fertilization to sugarcane productivity	**2**
Complementary and foliar fertilization of sugarcane	**2**
Average of credits per service	**3**

Source: the author, 2018

Table 37 -Phytosanitary Defense Services

Pest control: Diagnosis of the situation, analysis of the history and determination of predisposing factors	**Credits** **3**
Evaluation of methods of pest monitoring and control	**4**
Definition and application of pest control strategies	**3**
Sizing and team training	**4**
Application of control methods	**4**
Analysis of results and route correction in Integrated Pest Management	**4**
Weed control management: Training in Matology and Weed Management	**3**
Diagnosis of weed infestation	**3**
Elaboration of herbicide treatments	**5**
Evaluation of efficacy treatments (post-application)	**3**
Management of weed control in large crops and weed control training	**4**
Best Spraying Techniques: Training course for field teams and operators	**2**
Technical team training course	**2**
NR31- in the application of agrochemicals	**3**
<u>Average of credits per service</u>	**4**

Source: the author, 2018

Table 38 - Precision Agriculture and Irrigation Services

Satellite imagery Auxiliary study on land leases for the expansion of culture	**Credits** **5**
Evaluation of sugarcane biomass to help estimate harvest (analysis of 5,000 ha)	**1**
Studies on the potential for irrigation projects (up to 30 km from the plant)	**3**
Use of variable rates Check up the technology used with variable rates	**3**
Automatic pilot Check-up of the use of Auto Pilot (Projects, Application, Evaluation and Organization of archives).	**3**
MPB Irrigation Evaluation of existing and to be implemented projects	**3**
Projects for "glue" of MPB using nebulizers or micro sprinkler	**2**
Elaboration of projects for initial rustification of MPB by sprinkling or microaspiration	**2**
Planning of post-transplant irrigation of MPB	**2**
Irrigation of the sugarcane fields Evaluation of existing Irrigation Project - 500ha	**3**
Evaluation of irrigation equipment in operation – 500ha	**3**
Irrigation Planning and Drip Fertilization	**3**
Evaluation of damp bulbs in drip (by type of soil)	**1**
Evaluation of water management in irrigation systems-500ha	**2**
Evaluation of the vinasse application system	**4**
New irrigation or Fertigation projects (Pivot, Roller or Drip)	**On request**
Average of credits per service	**3**

Source: the author, 2018

Table 39- Mechanical Maintenance Services

Maintenance office Sizing and adjustment project of the fleet maintenance office	**Credits** **10**
Follow up of the adequacy of the maintenance office	**4**
Vehicles, machinery and equipment Situational survey of automotive maintenance	**2**
Plan of improvements in the maintenance of the fleet, physical structure and tooling with an advisory for implantation	**4**
Preparation of the budget forecast and monitoring of possible deviations	**2**
Organization and best practices, procedures, maintenance office work instructions	**2**
Guidance in the technical description for the acquisition of equipment	**1**
Evaluation and solutions for chronic maintenance problems	**2**
Technical, professional and personal development of maintenance managers	**4**
Analysis and sizing of headcount (labor sizing)	**2**
Implementation of linear maintenance and total productive maintenance (TPM)	**6**
Maintenance operator deployment - no bureaucracy	**4**
Average of credits per service	**4**

Source: the author, 2018

Table 40 – Biomass Services

Sugarcane Energy Analysis of viability of biomass production with Vertix varieties.	**Credits** **4**
Complete project to produce biomass with sugarcane energy and straw	**6**
Biomass production techniques with sugarcane energy	**2**
Program of local selection of the richest varieties of sugarcane energy (one year)	**8**
Straw Complete straw gathering project	**10**
Implementation plan of straw gathering in the field	**4**
Average of credits per service	**6**

Source: the author, 2018

Table 41 - Capacitating and vocational training Services

Courses	**Credits**
Mechanical harvesting - operation	**1**
Mechanical harvesting - maintenance	**1**
Quality mechanized planting	**1**
Mechanical planting - systematization and process planning	**1**
Agricultural machines – pre-work inspections	**1**
Physical base planning and area systematization	**1**
Soil Conservation	**1**
Application of soil charts	**1**
Optimization of fertilization	**1**
The sugarcane cut	**1**
Driver - defensive driving	**1**
Rationalization of fertilization	**1**
Driver – operations	**1**
Giant sugar cane drill	**1**
Average of credits per service	**1**

Source: the author, 2018

Table 42 - Special projects Services

Fusions and acquisitions	**Credits**
Due Diligence- technical-economic of the agricultural area	**On request**
General Planning PDA - Ten Year Agricultural Master Plan	**15**
Productivity Recovery Recovery plan of agricultural productivity	**10**
Average of credits per service	**12**

Source: the author, 2018

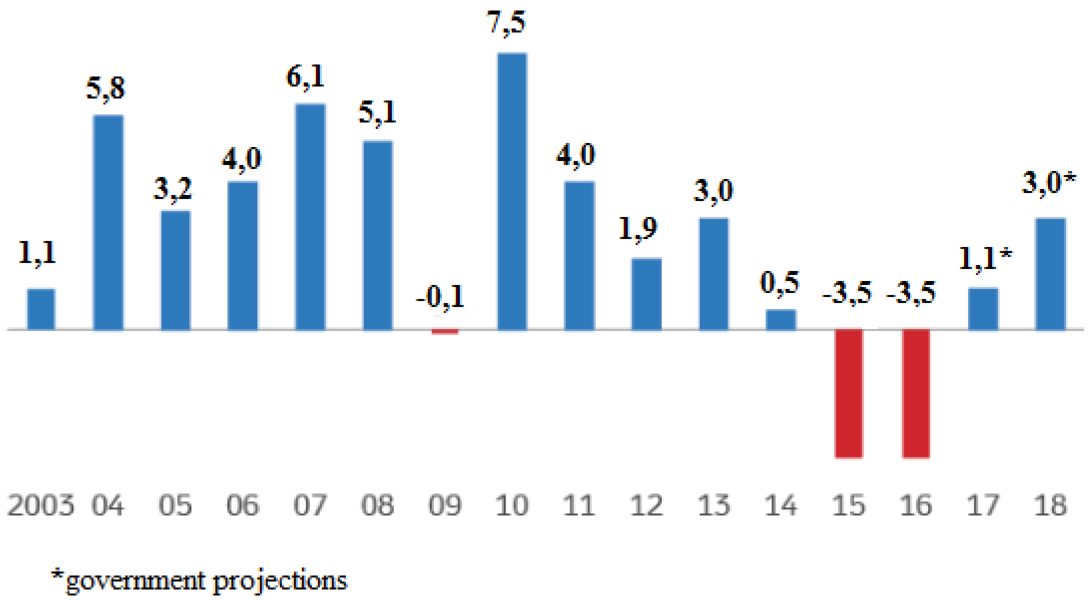
Table 43 - Environmental and Agricultural taxation Services

	Credits
INCRA Expropriation: productivity analysis with calculation of the degree of land use and soil exploration efficiency	1
Elaboration of agricultural contracts	10
Analysis of land use and occupation	1
Follow-up on inspection of INCRA	6
Re-registration and preparation of project reports	3
Administrative appeals for challenging unproductiveness and obtaining CCIR	10
Technical assistance in legal actions	10
Environment governmental bodies The audit, analysis of environmental liabilities with satellite images and topography	1
Obtaining the CAR - Rural Environmental Registry for the preparation of the PRAD - Recovery Plan for Degraded Areas	1
Managing environmental fines	3
Agreements and Elaboration of the TAC - Term of Adjustment of Conduct with the Public Prosecution Service	10
Technical assistance in legal actions	10
IRS Management of the study, calculation and completion of the ITR (by year and by property)	1
Value of bare land and proof of crop and livestock products in all administrative instances	6
Technical report to prove used and occupation of the soil	4
ITR Audit	1
Registration in rural properties	1
Technical assistance in legal actions	10
Average of credits per service	5

Source: the author, 2018

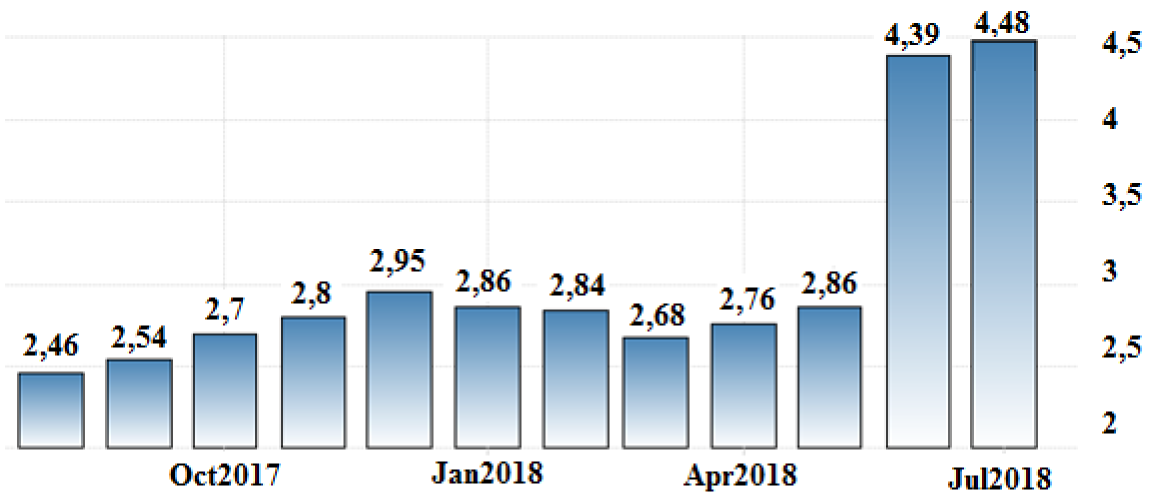
GRAPHS

Graph 1- Performance of the Brazilian GDP (%)



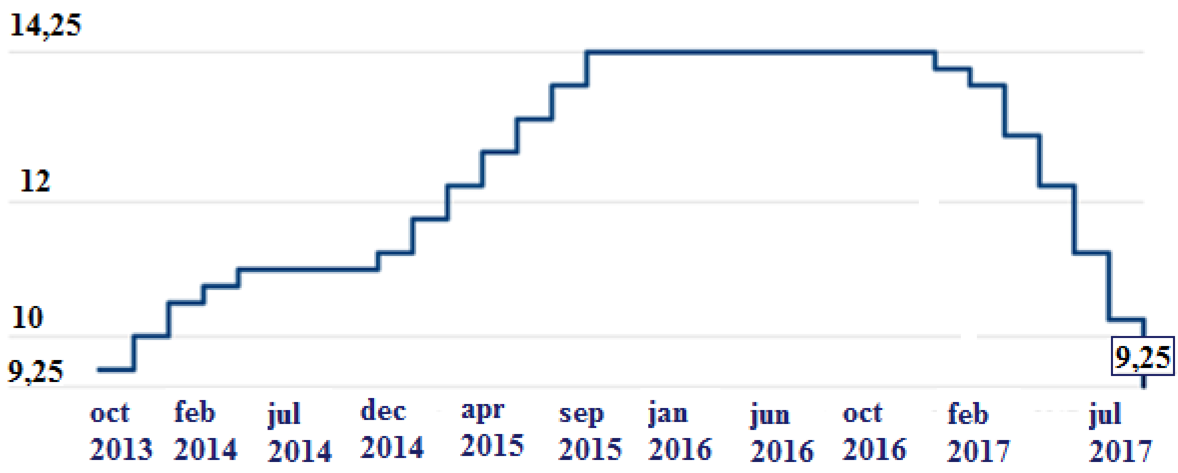
Source: IBGE, 2017

Graph 2 – Brazilian Inflation Rate



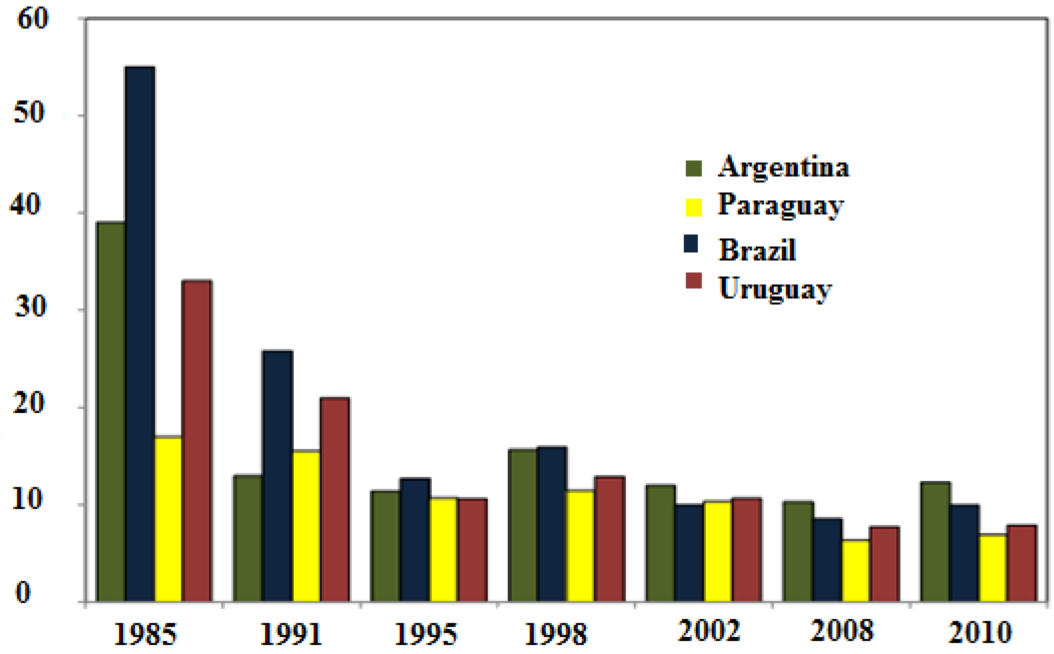
Source: IBGE, 2018

Graph 3 - Evolution of the basic interest rate - Selic rate (% per year)



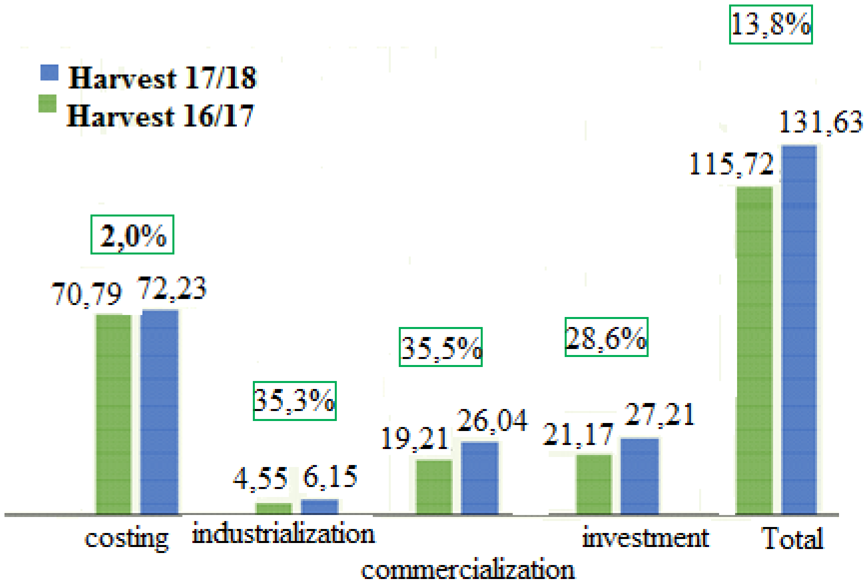
Source: Central Bank, 2017

Graph 4 - Evolution of the average tariff applied to MERCOSUL countries (%)



Source: FMI, 2012

Graph 5 - Amounts contracted in R$ billions

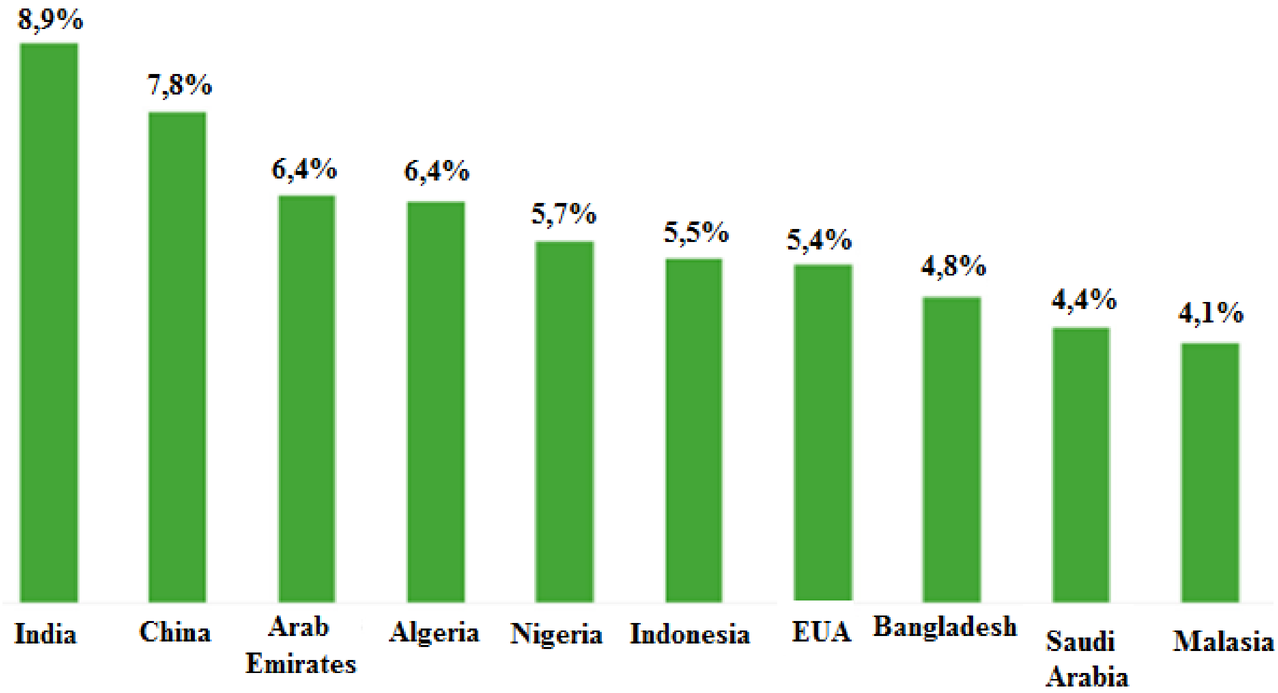


Source: BNDES, 2017

Graph 6 - GDP and Inflation (IPCA - accumulated rate in 12 months)

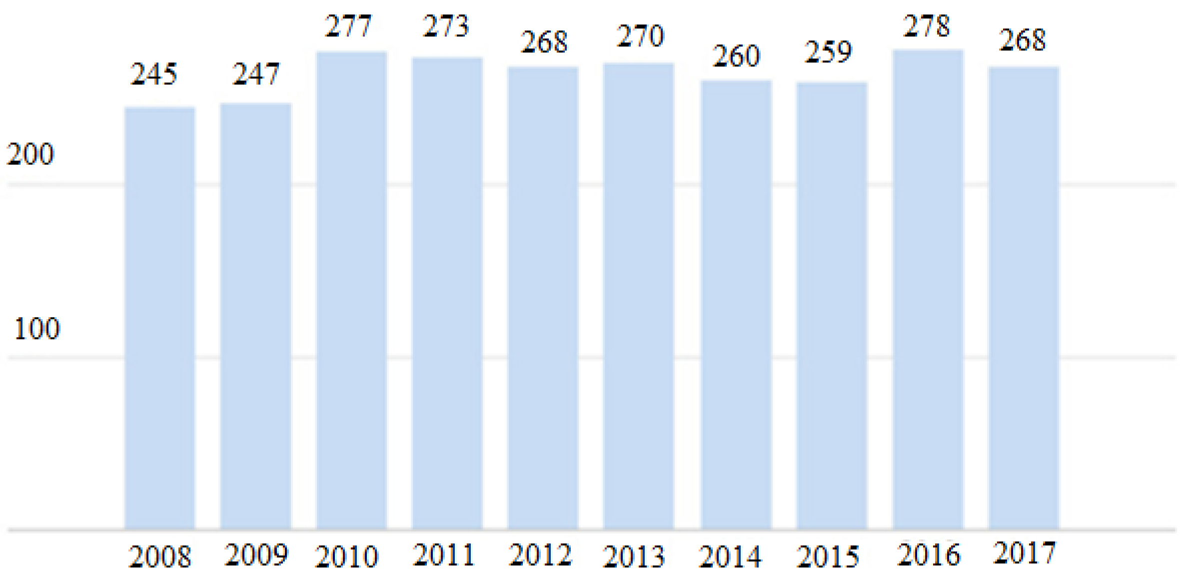
Source: IBGE, 2018

Graph 7 - Main destinations of São Paulo state exports from the sugar and alcohol sector



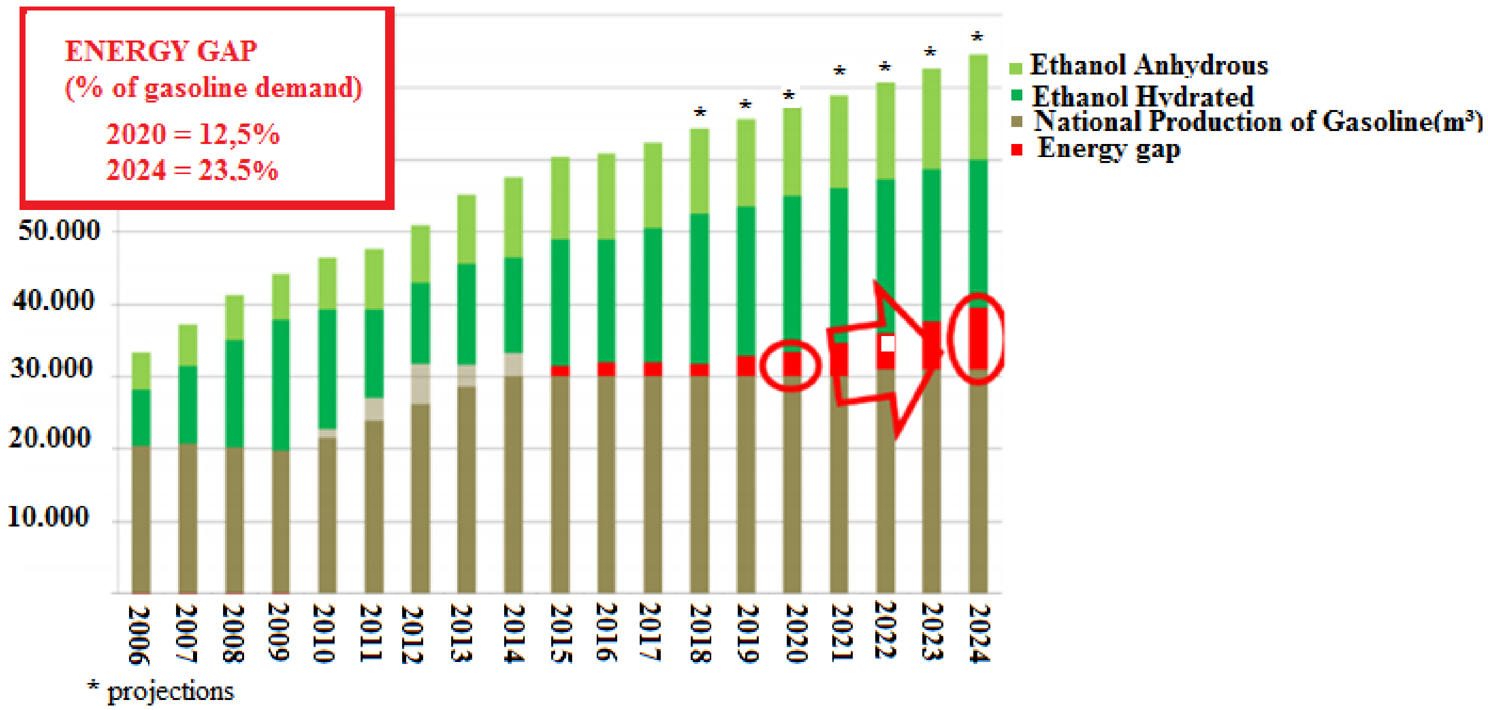
Source: UNICA, 2018

Graph 8 - Agribusiness GDP of São Paulo state in R$ billions



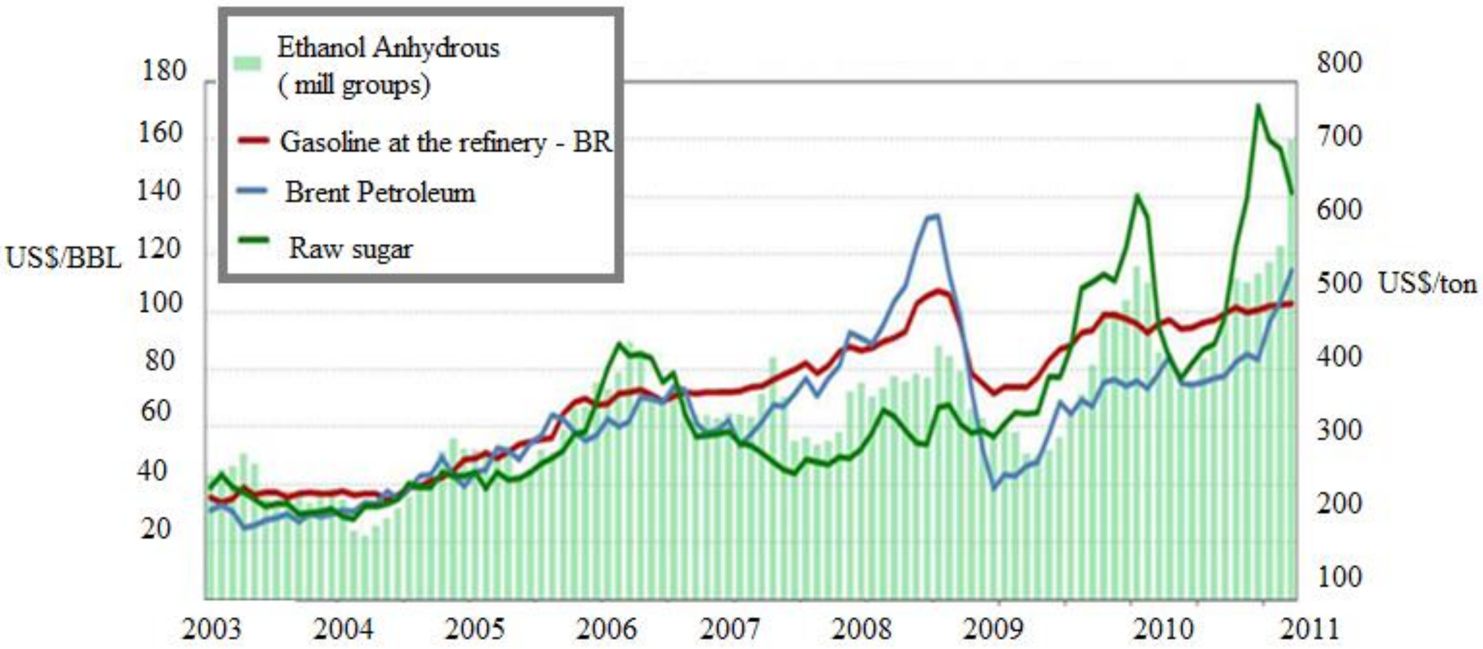
Source: CNA, 2018

Graph 9- OTTO-Gap energy cycle (m3 Equivalent Gas)



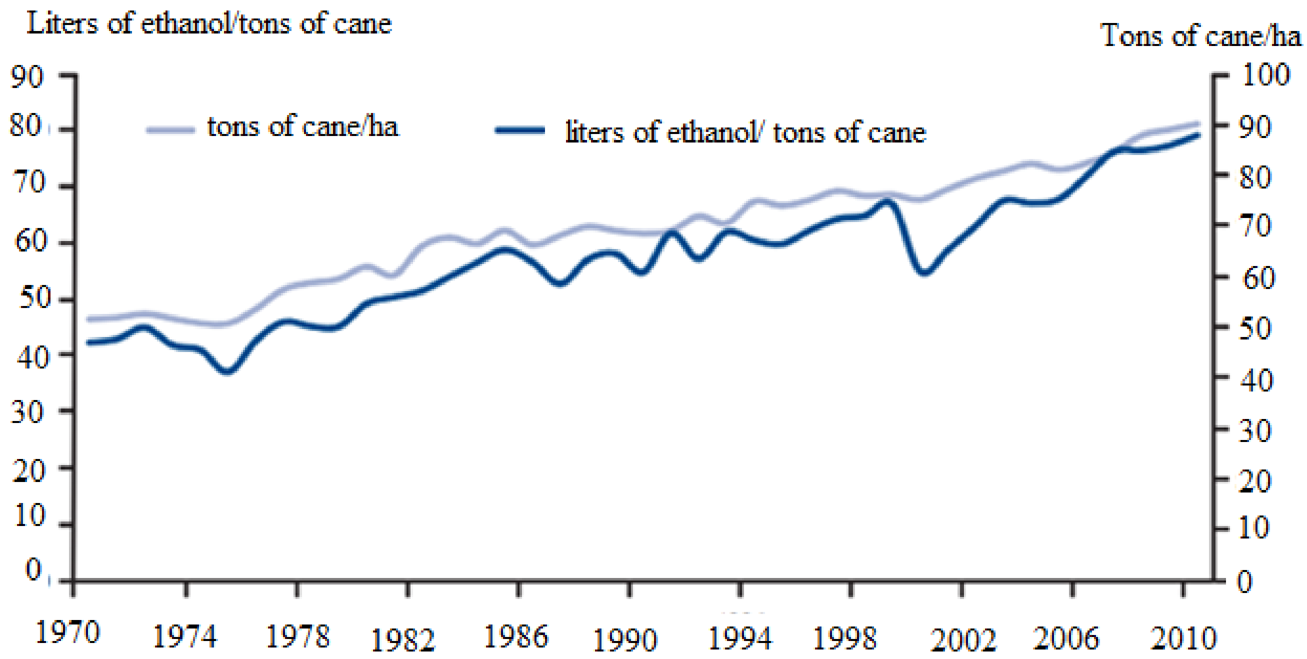
Source: CNPE, 2014

Graph 10- Evolution of prices of sugar and oil about Ethanol



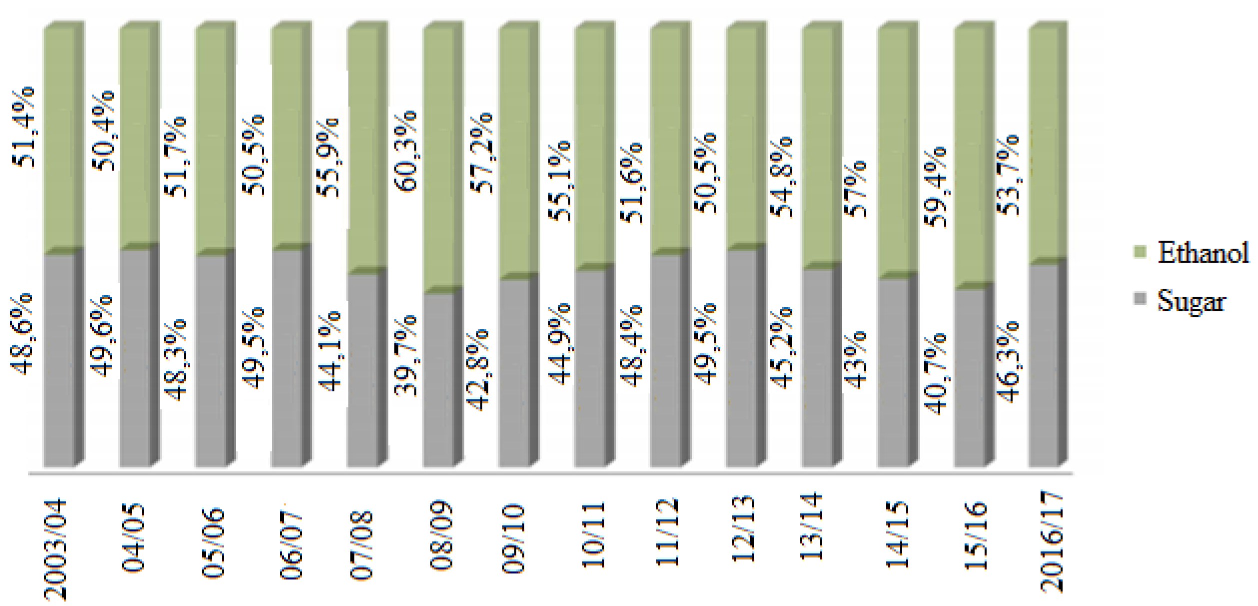
Source: MME, 2012

Graph 11- Productivity of Brazilian ethanol and sugarcane



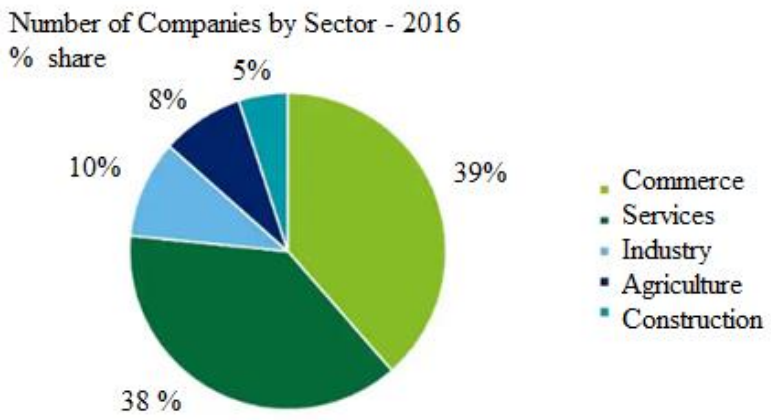
Source: USDA, 2011

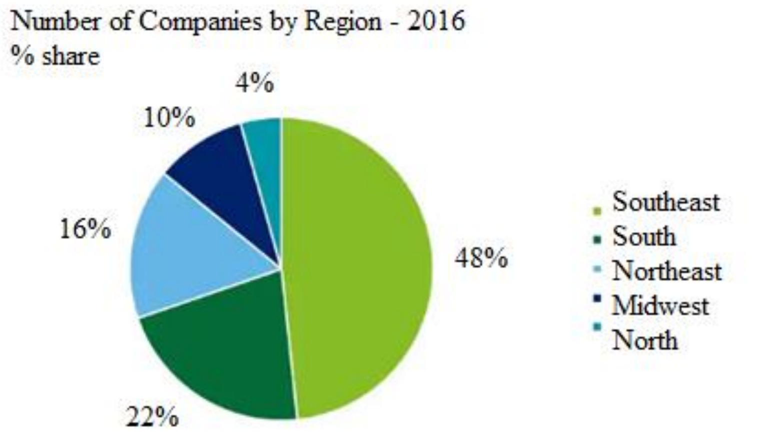
Graph 12 - The historical evolution of the destination of sugarcane processed by Southeast region (%)



Source: UNICA, 2018

Graph 13- Companies by sector and region





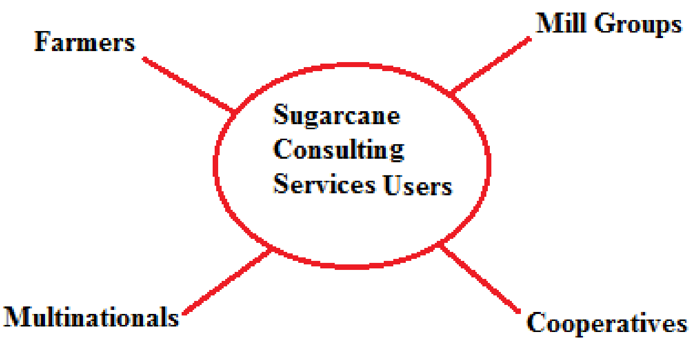
Source: Deloitte, 2016

IMAGES

Image 8 – Dr.Cana´s Logo

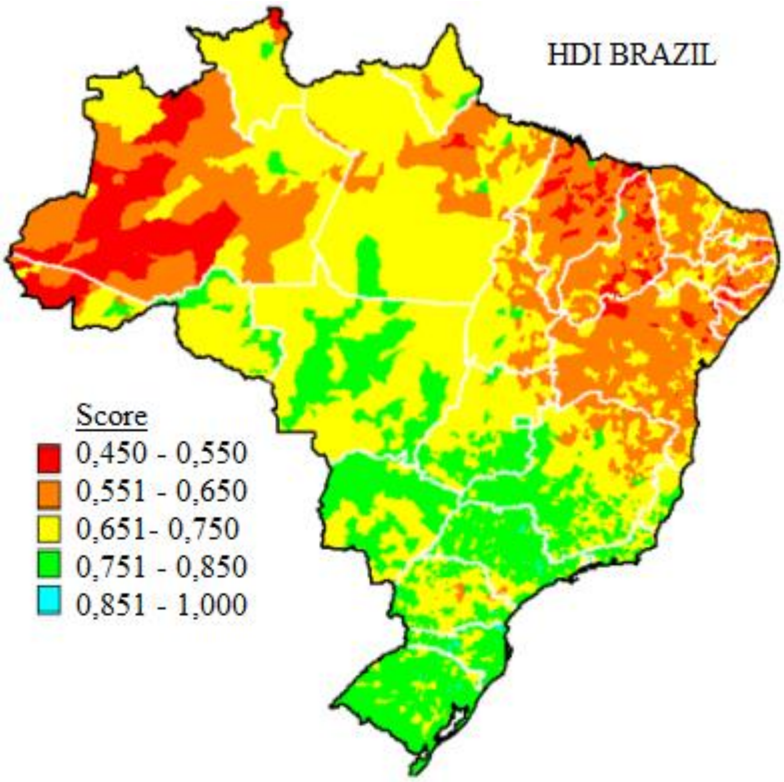
Source: the author, 2018

Image 10 - Set Sampling



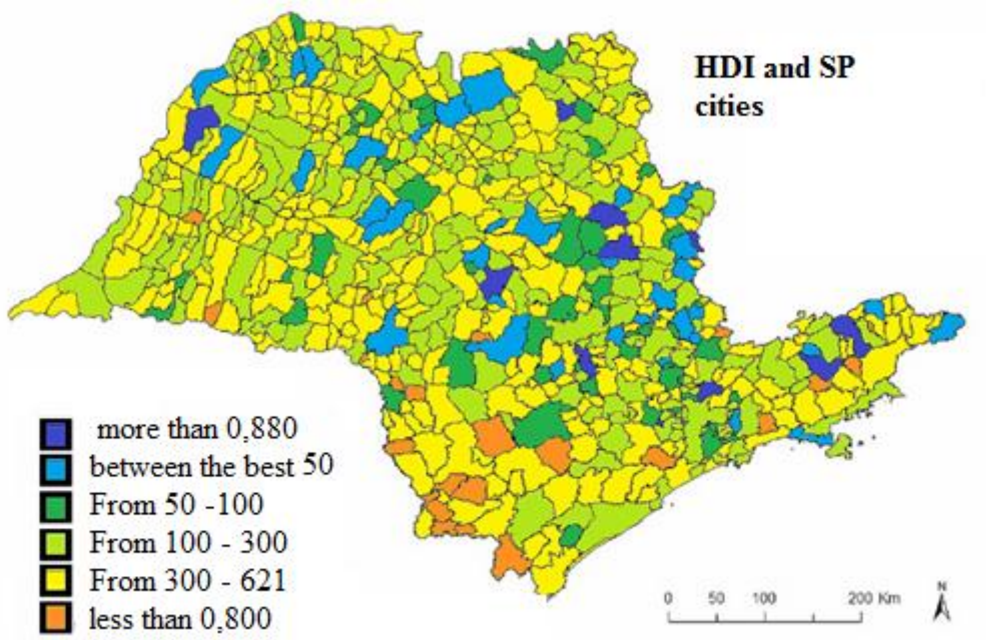
Source: the author, 2018

Image 2- National HDI



Source: UNDP,2010

Image 3-Best cities in SP state

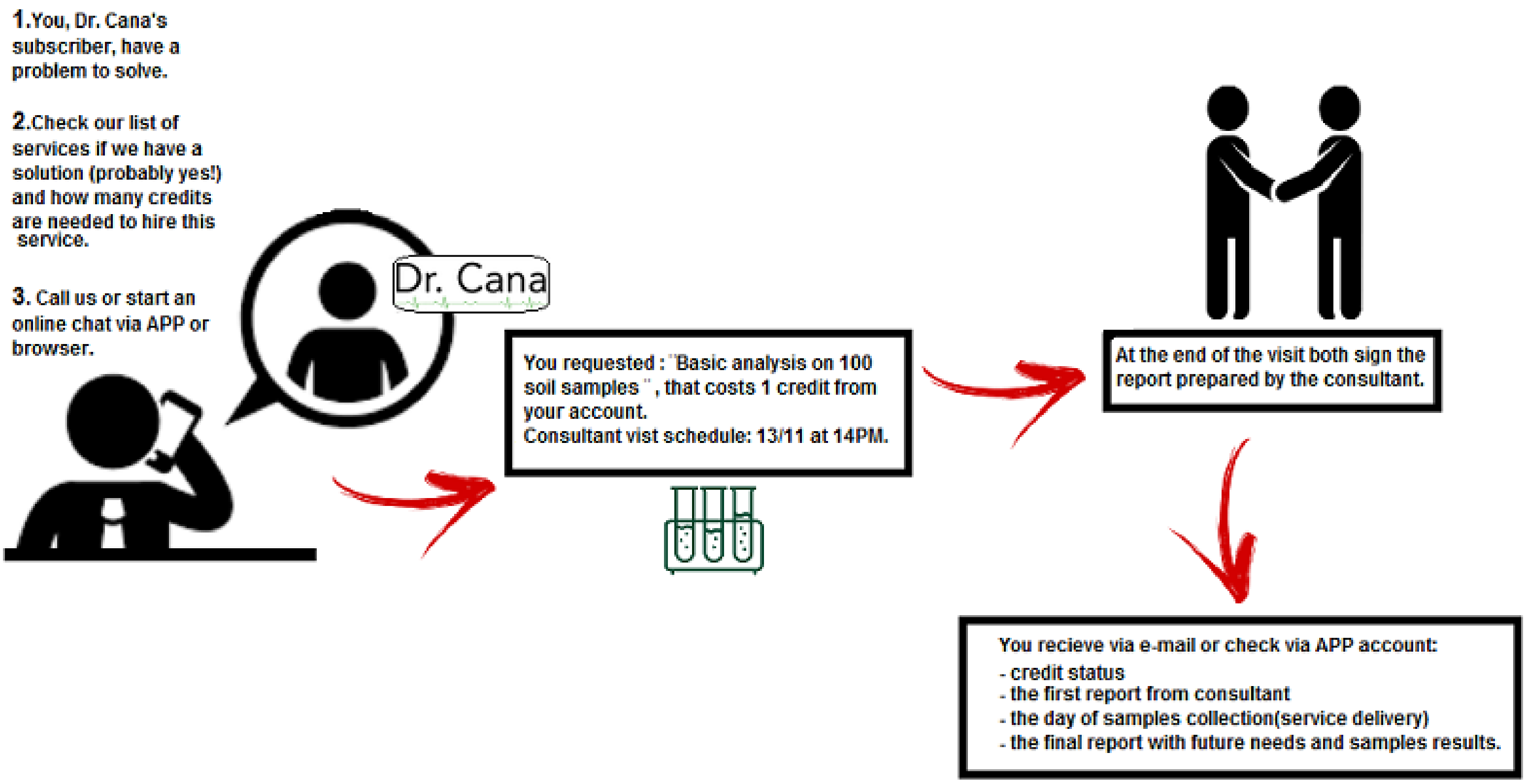


Source: IBGE,2012

Image 5 – Location of sugar and bioethanol plants in Brazil

Source: CTC, 2005

Image 9 – Dr.Cana´s Framework



Source: the author, 2018

ANNEXES

ANNEX 1

Portuguese version

Consultorias na Cana de Açúcar

Perguntas para pessoas e empresas em todo o setor sucro-energético (produção, processamento e gestão da cultura) que utilizam consultoria agrícola:

Qual o seu tipo de negócio?

- Usina(s) de processamento
- Uma multinacional
- Cooperativa
- Fazendeiro/Produtor Rural

Há quanto tempo a empresa e/ou propriedade produz ou processa cana de açucar?

- Menos de 1 ano.
- De 1-5 anos.
- De 5-15 anos.
- De 15-30 anos.
- Mais de 30 anos.

Vocês utilizam consultoria agrícola?

- Sim
- Não

Com qual frequência?

- Só durante o perído de safra
- Só quando estamos implementando a lavoura
- Só quando temos problemas de logística /gestão /financeiro
- Só quando há problemas na indústria
- Temos parceria constante com consultores e firmas de consultoria (mais de 8 visitas totais / ano)

Quão eficaz é o resultado final de uma consultoria quando contratada por você?

- Excelente, além de ser resolvido o problema, recebemos um acompanhamento futuro do consultor. Ele nos contacta sempre.
- Satisfatório, o problema fica resolvido da forma que precisamos para aquele momento
- Médiano, sempre precisamos de consultoria no mesmo problema por mais 1 ou 2 anos.
- Nunca alcançamos os resultados que gostaríamos. Podemos ser ainda mais eficazes nos resultados da empresa.

Quais são a(s) área(s) que mais precisam de apoio e assistência?

Pode escolher mais de uma resposta.

☐ Mecanização, Plantação e Colheita	☐ Agricultura de Precisão e Irrigação
☐ Variedades de cana-de-açúcar	☐ Biomassa
☐ Qualidade da Matéria Prima	☐ Tributação Ambiental e Agrícola
☐ Solo	☐ Recuperação de produtividade
☐ Análise laboratorial	☐ Due diligence
☐ Cultivo de Culturas	☐ Outra:
☐ Gestão Agrícola	
☐ Defesa Fitossanitária	

Qual o tipo de serviço de consultoria que mais utiliza na sua empresa e/ou propriedade rural?

- (●) Consultor antigo na área (uma pessoa).
- ( ) Empresa de consultoria especializada na área (ex. irrigação, mecanização, e etc).
- ( ) Temos técnicos internos qualificados, na maioria das vezes não solicitamos nenhum tipo de consultoria agrícola.

Acredita que um sistema de consultoria agrícola em cana de açúcar, onde existem todos os serviços necessários para resolver os problemas na sua lavoura, poderia fazer a diferença no resultado produtivo?

- (●) Sim, utilizaria o serviço devido a sua eficiência.
- ( ) Não, é um tipo de serviço novo e dúvido da sua eficácia.
- ( ) Não sei, pois não conheço nenhum serviço assim.

Qual a sua maior satisfação quando contrata uma consultoria?

- (●) Esse problema passa a ser resolvido por outra pessoa. Minha equipe não precisa se preocupar tanto com essa área e pode focar em outras tarefas.
- ( ) O valor que pago pela consultoria sempre é pago pelos seus rendimentos que dão no furuto. É financeiramente viável.
- ( ) A segurança por estar com uma pessoa ou empresa que realmente sabe resolver esse problema. Resolução do problema de forma definitiva e eficaz.
- ( ) As dicas que recebo pelo consultor de problemas que também estão relacionados a está área da consultoria. Conhecer outras áreas que também podem ser melhoradas para aumentar meu potencial produtivo.

Assumindo que você contratou uma consultoria. Numa escala de 0 a 5, classifique os fatores qual faria com que você a recontratasse. Sendo 5 o mais importante e 0 o menos importante para você.

Use números de 0 a 5, sem repeti-los.

[ ] O quão conhecidos e experientes são os consultores que vão realizar os serviços para o setor de cana-de-açucar.

[ ] O valor mensal.

A lista de serviços oferecidos.

A agilidade e rapidez do atendimento em consultoria.

A integração de várias áreas em uma única plataforma de consultoria agrícola.

O sistema moderno onde posso controlar meus serviços, os estágios de desenvolvimento deles e mensalidades via APP.

Imagine que igual ao seu plano de saúde pessoal ou familiar, existe agora um plano de saúde para o seu canavial e todas as atividades relacionadas a ele. Assim você tem uma lista de mais de 150 serviços (suporte em mecanização, análises laboratoriais periódicas, avaliação de defesa sanitária, assistência tributaria ambiental, suporte na colheita, gestão agrícola, manejo varietal e vários outros) e pode usar-los sempre quando quiser e julgar necessário por um preço fixo mensal.

Usando um exemplo para ajudá-lo. Só um projeto de irrigação em consultoria para uma área de 400 ha hoje fica em R$ 37.000,00.

Qual valor pagaria mensalmente por esse plano ?

- R$ 8.000,00 - R$ 12.000,00 , e só utilizo 1 serviço mensal.
- R$ 12.000,00 - R$ 22.000,00 , e só utilizo máximo 2 serviços mensais.
- R$ 22.000,00 - R$ 32.000,00 , e posso usar até 8 serviços mensais.
- Mais que R$ 32.000,00, e tenho qualquer tipo de assistência técnica que preciso de forma ilimitada.

Qual a consultoria que você mais precisa hoje em sua empresa e /ou propriedade rural? Considere seu problema mais recentes.

Muito Obrigado!

Queremos ajudá-lo ao máximo possível.

Ter respondido a essa pesquisa só fará com que tenha acesso a ferramentas e serviços que o ajude cada vez mais e melhor no seu sistema produtivo.

ANNEX 2

English version

*Survey - **Sugarcane Consultancies***

Questions for people and enterprises across the sugar-energy sector (production, processing and crop management) that are using agricultural consulting:

What is your type of business?

- ○ Mill Groups
- ○ Multinational
- ○ Cooperative
- ○ Farmer /Rural producer

How long have the enterprise and/or property been producing or processing sugar cane?

- ◉ Less than 1 year.
- ○ From 1 to 5 years.
- ○ From 5 to 15 years.
- ○ From 15 to 30 years.
- ○ More than 30 years.

Do you use agricultural consulting?

- ◉ Yes
- ○ No

How often?

- ○ Only during the harvest season.
- ○ Only when implementing the crop.
- ◉ Only when we have logistics /management /financial problems.
- ◉ Only when there are problems in the industry.
- ○ We have constant partnerships with consultants or /and consulting firms (more than 8 visits /year).

How effective is your end result of a consultancy when hired by you?

- (•) Excellent, in addition to being solved the problem; we receive a future monitoring of the consultant. He always contacts us.
- ( ) Satisfactory, the problem is solved the way we needed it for that moment.
- ( ) Median, we always rehire the service for the same problem for another 1 or 2 years.
- ( ) We never achieve the results we would like. We can be even more effective in our business's results.

Which areas you need more support and assistance?

You can check more than one.

☐ Mechanization, planting and harvesting	☐ Precision Agriculture and Irrigation
☐ Varieties of sugar cane	☐ Biomass
☐ Quality of raw material	☐ Environmental and Agricultural Taxation
☐ Soil	☐ Productivity Recovery
☐ Laboratory analysis	☐ Due diligence
☐ Cultivation	☐ Other: ____
☐ Agricultural Management	
☐ Phytosanitary Defense	

What type of consulting service do you use most in your enterprise and /or rural property?

- (•) Traditional consultant in the area (one person).
- ( ) Consulting firm specialized in one area (e.g. irrigation, mechanization or another).
- ( ) We have qualified internal technicians, most of the time we do not request any type of agricultural consultancy.

Do you believe that an agricultural advisory system in sugarcane, where all the necessary services are available to solve the problems in your enterprise, could make a difference in the productive result?

- (•) Yes, I would use the service because of its efficiency.
- ( ) No, it's a new type of service and doubts its effectiveness.
- ( ) I do not know, because I do not know any service like that.

What is your <u>greatest satisfaction</u> when you hire a consultant?

- (•) This problem is solved by someone else. My team does not have to worry so much about this area and can focus on other tasks.
- ( ) The amount you pay for consulting is always paid for the profits in the end of the year. It is financially viable.
- ( ) The safety of having a person or firm that really know how to solve this problem. Solve the problem definitively and effectively.
- ( ) The tips I get from the consultant. Other problemt are also related to this area of consultancy, knowing and improving them can increase my productive potential as well.

Assume you hired a consultant. On a scale of 0 to 5, rank the factors that would make you rehire it, in which 10 is the most important one and 0 is the least important to you.

Use from 0 to 5. Don´t repeat them, please.

[ ] How known and experienced are the consultants who will carry out the services for the sugar cane industry.

[ ] The monthly fee value.

[ ] The list of services offered.

Agility in offering consulting services.

The integration of several areas into a single agricultural consulting platform.

The modern system where I can control my services, the development stages of them and tuition via APP.

Imagine that just like your personal or family health plan, there is now a health plan for your cane field and all activities related to it. So you have a list of more than 150 services (mechanization support, periodic laboratory analysis, sanitary defense, environmental tax assistance, harvest support, agricultural management, varietal management and several others) and you can use them whenever you want and judge necessary for a fixed monthly price.

Use this example to help you. Only one consulting irrigation project for an area of 400 ha today costs R$ 37,000.00.

How much would you pay monthly for the plan?

- R$ 8.000,00 - R$ 12.000,00 , and I can only use 1 service.
- R$ 12.000,00 - R$ 22.000,00 , and I can only use 2 services.
- R$ 22.000,00 - R$ 32.000,00 , and I can use until 8 services.
- Any value over R$ 32.000,00, and I have unlimited assistance.

What consultancy do you need most today in your enterprise and /or rural property? Consider your most recent issue.

Thank you so much!
We want to help you as much as possible.
Responding to this research will only bring you more access to services that support your production system.

RESULTS

ANNEX 3

Chart 1

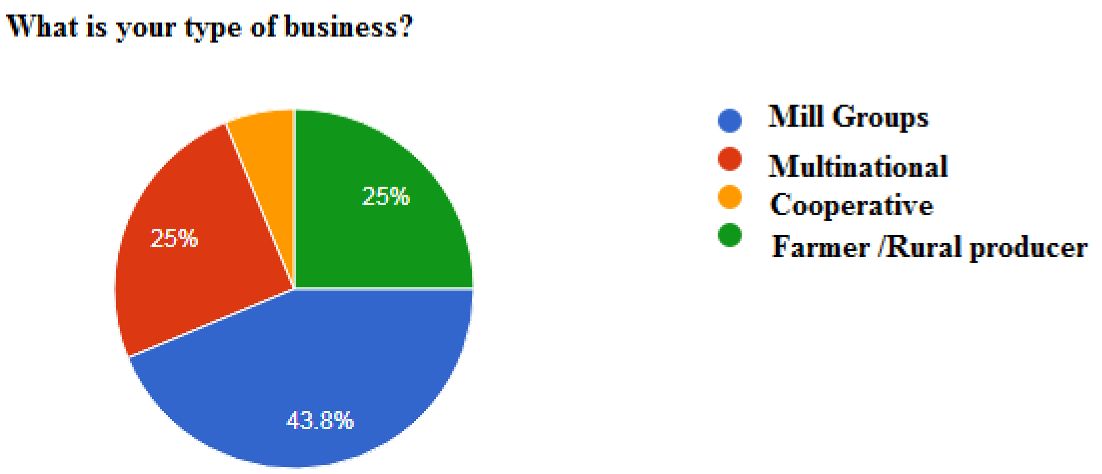


Chart 2

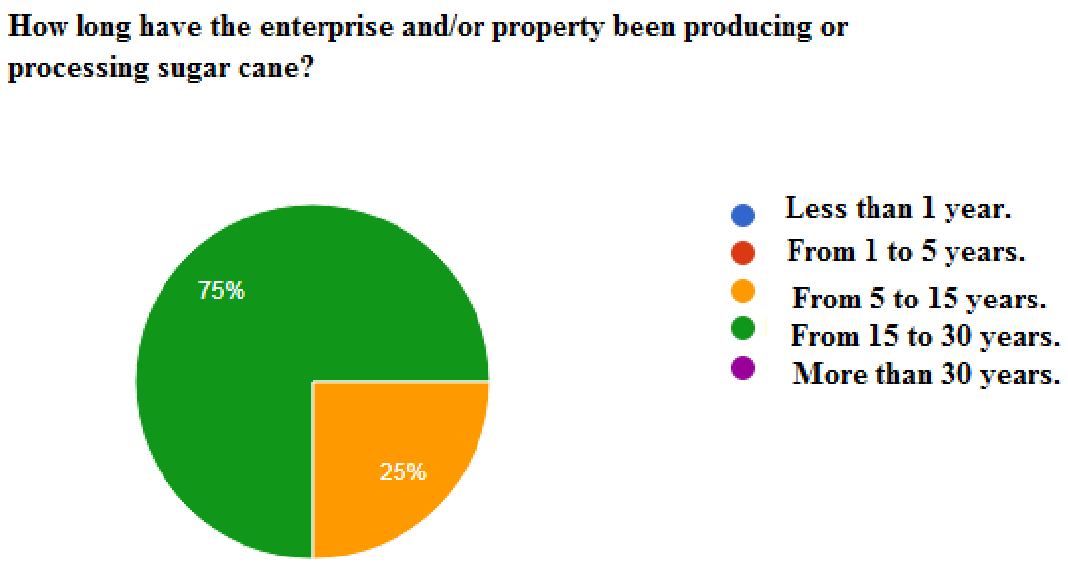


Chart 3

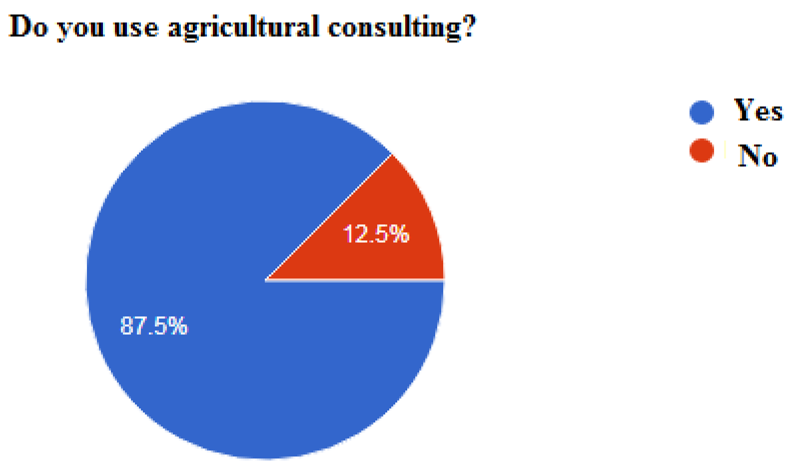


Chart 4

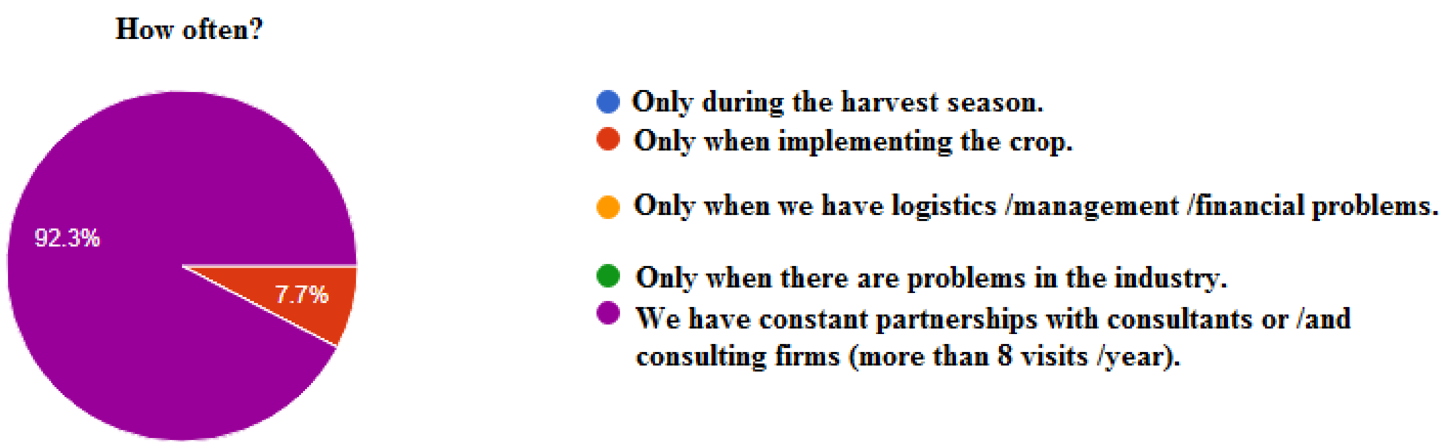
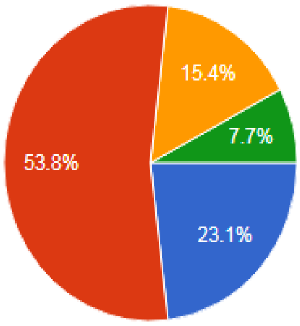


Chart 5

How effective is your end result of a consultancy when hired by you?

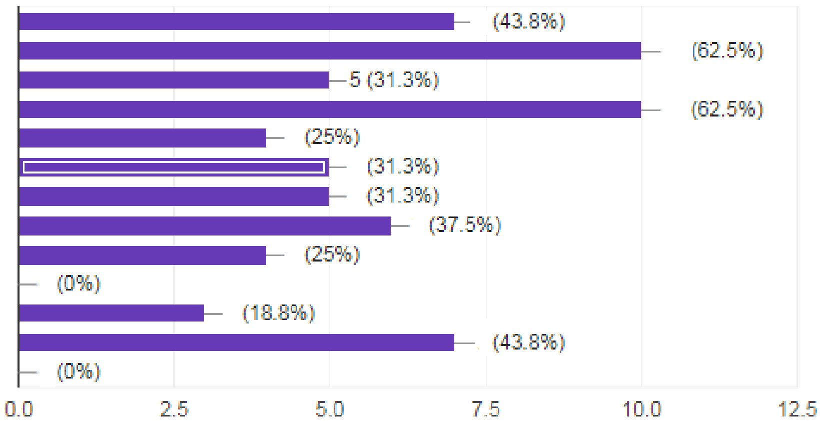


- **Excellent, in addition to being solved the problem; we receive a future monitoring of the consultant. He always contacts us.**
- **Satisfactory, the problem is solved the way we needed it for that moment.**
- **Median, we always rehire the service for the same problem for another 1 or 2 years.**
- **We never achieve the results we would like. We can be even more effective in our business's results.**

Chart 6

Which areas you need more support and assistance?

You can check more than one.



(0%) Due diligence; Biomass

(18.8%) Environmental and Agricultural Taxation

(25%) Precision Agriculture and Irrigation; Laboratory analysis

(31.3%) Agricultural Management; Quality of raw material; Cultivation

(37.5%) Phytosanitary Defense

(43.8%) Mechanization, planting and harvesting; Productivity Recovery

(62.5%) Varieties of sugar cane; Soil

Chart 7

What type of consulting service do you use most in your enterprise and /or rural property?

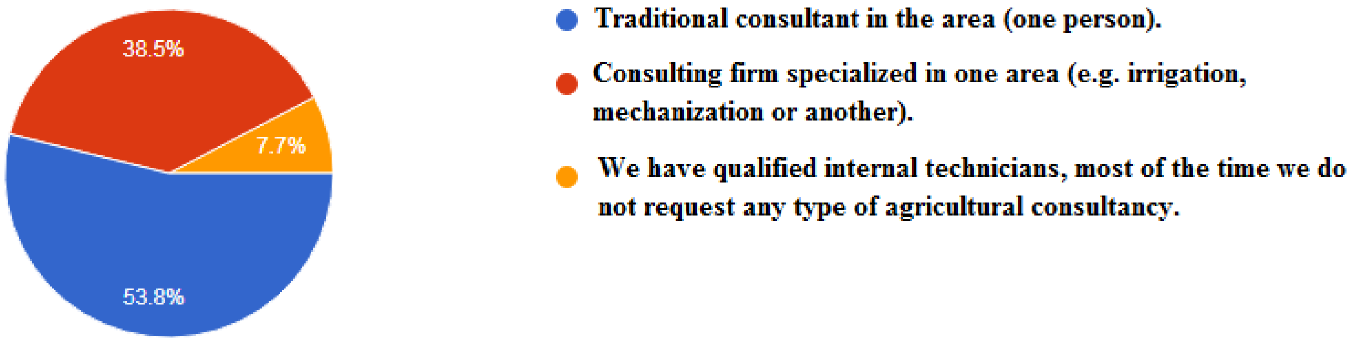


Chart 8

Do you believe that an agricultural advisory system in sugarcane, where all the necessary services are available to solve the problems in your enterprise, could make a difference in the productive result?

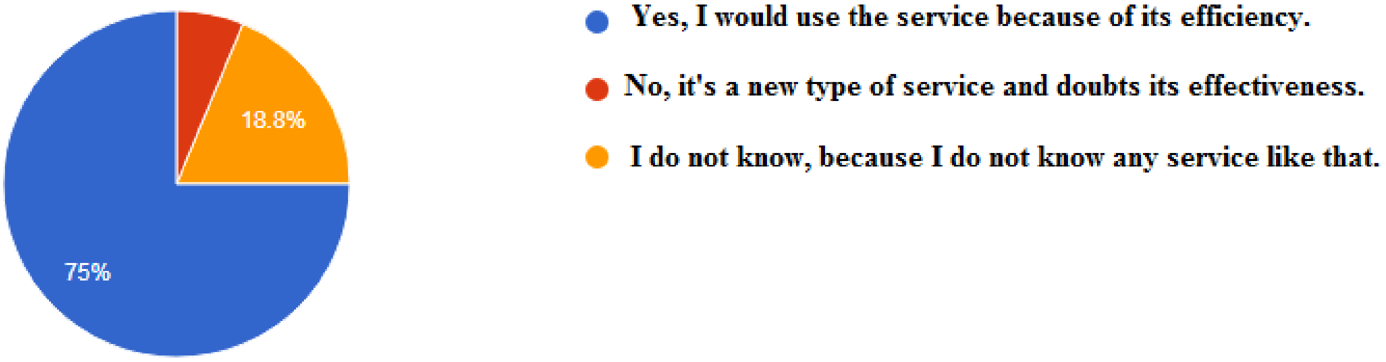
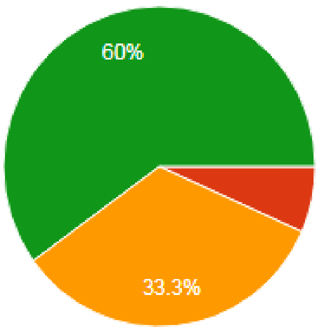


Chart 9

What is your <u>greatest satisfaction</u> when you hire a consultant?



- **This problem is solved by someone else. My team does not have to worry so much about this area and can focus on other tasks.**
- **The amount you pay for consulting is always paid for the profits in the end of the year. It is financially viable**
- **The safety of having a person or firm that really know how to solve this problem. Solve the problem definitively and effectively.**
- **The tips I get from the consultant. Other problemt are also related to this area of consultancy, knowing and improving them can increase my productive potential as well.**

Chart 10

Assume you hired a consultant. On a scale of 0 to 5, rank the factors that would make you rehire it, in which 10 is the most important one and 0 is the least important to you.

Use from 0 to 5. Don´t repeat them, please.

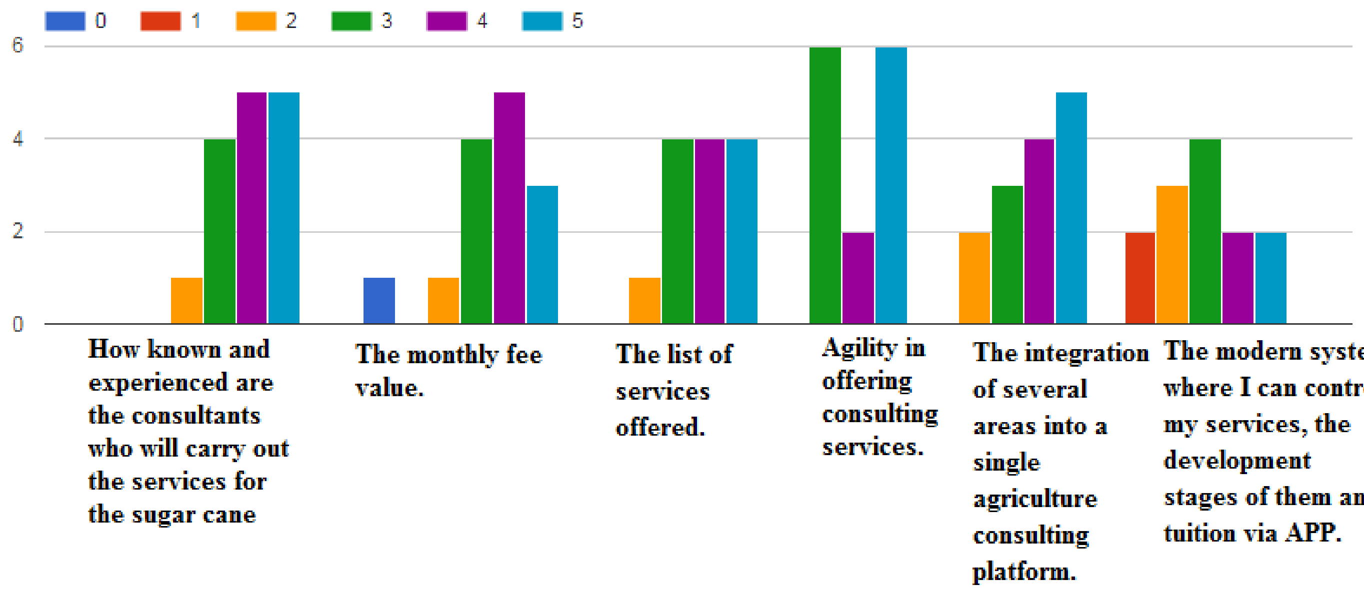


Chart 11

Imagine that just like your personal or family health plan, there is now a health plan for your cane field and all activities related to it. So you have a list of more than 150 services (mechanization support, periodic laboratory analysis, sanitary defense, environmental tax assistance, harvest support, agricultural management, varietal management and several others) and you can use them whenever you want and judge necessary for a fixed monthly price.

Use this example to help you. Only one consulting irrigation project for an area of 400 ha today costs R$ 37,000.00.

How much would you pay monthly for the plan?

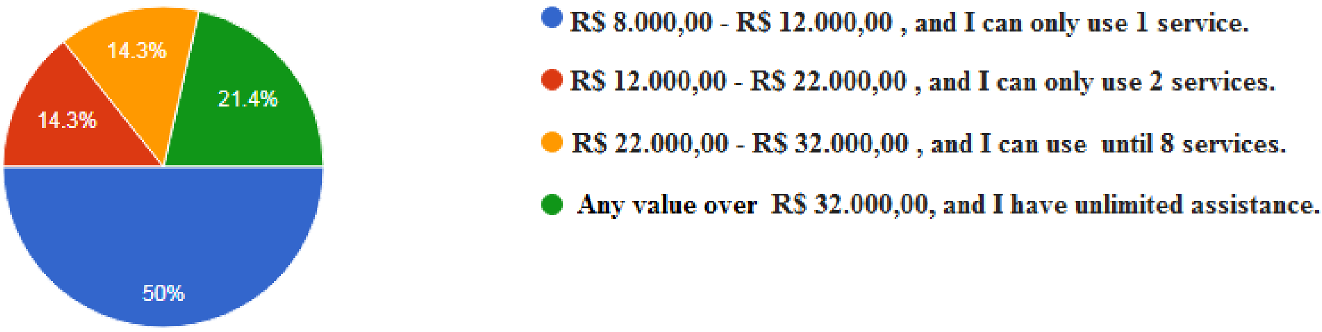


Chart 12

What consultancy do you need most today in your enterprise and /or rural property? Consider your most recent issue.

open answer.