

EVALUATION OF THE APPLICATION OF DOUBLE TAXATION ON  
INTERNATIONAL SERVICES TRANSACTIONS FROM BRAZILIAN AIRLINES

by

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This Capstone Project was prepared and approved under the direction of the  
Group's Capstone Project Chair, Dr. Leila Halawi  
It was submitted to Embry-Riddle Aeronautical  
University in partial fulfillment of the requirements  
for the Aviation Management  
Certificate Program

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## Abstract

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Title: Evaluation of the application of double taxation on international services transactions from Brazilian airlines

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Globalization tends to stimulate transactions between different countries by offering products and services with different quality and prices. During the negotiations, there is a tax over payment remitted abroad that involves agreements between countries. This research project aims to understand all the double taxation agreements between Brazil and foreign countries inserting them into the decision making process of hiring a service abroad. Using the Business Process Management methodology it could be seen that double taxation is not considered today on the study of hiring a service abroad, which can lead to an increase on company's costs. This project proposes a change on the process done today by including the utilization of a new tool fed with all the different types of agreements valid in Brazil to simplify the decision of the procurement team. The tool is created and available to be implemented within companies with estimated saving around USD 33MM per year.

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## Chapter I

### Introduction

Most countries need to buy products or services from others, to supply self-demand. That makes the international trade to become an important tool to fill this gap. The export volume worldwide was only 124 billion dollars in 1960 and in 2017 this number leaped to proximally 18 trillion dollars according to The World Bank (2018), confirming the importance of international trade to any nation around the world.

The tendency to trade with other nations or suppliers located in different countries became very useful for many reasons, such as to reduce costs or to compensate for the lack of technology, among other reasons. For Brazilian companies, there is a necessity to hire services from other nations, however this process brings an added tax cost when you need to pay the supplier abroad. According to Flores (2013), when a Brazilian companies hires services abroad it is necessary to pay around 51% of additional tax to perform that transaction.

When contracting third-party services in the aviation industry, most suppliers are located outside Brazilian territory. Consequently, many services are hired from foreign suppliers. As a result, when Brazilian airlines pay for these services, the payment is made in a foreign currency that involves a currency exchange process, which includes taxes. We estimate, based on historical data for 2017, that Brazilian Airlines pay annually Brazilian Real (BRL) ~306MM in taxes to remit payment for suppliers outside Brazil, 71% of this cost is related to *Imposto sobre a renda retido na fonte* (IRRF - withholding tax), BRL ~218 MM which is usually paid for services. Our estimation is based on real

data from 2017 for one of the Brazilian Airlines companies and based on the market share of this company.

Considering this added cost, it is very important to have a tax planning. According to Agrawal (2007), the main objective of tax planning is to minimize taxes through the organization of your financial issues.

IRRF is the only tax over payments remitted abroad which can vary from country to country and have the possibility to be compensated by the renderer of the service. That's why we will focus our project on this specific tax.

Our main objective is to develop a process that can support the procurement department to take IRRF amount into consideration when hiring a service abroad.

### **Problem Definition**

According to Afonso et al. (1998) since Brazil changed its currency from Cruzeiro to Real in 1994, the taxation achieved and averaged 29% of the Gross Domestic Product (GDP). Still based on Afonso et al (1998) analysis, the 45.94% of the tax burden comes from taxes on goods and services. Those taxes represent 13.29% of the GDP, which means it is almost half of the total taxation of the GDP.

Analyzing the types of taxes paid today in Brazil, the five main taxes represent 70% of the 28.9% taxes paid of the GDP and the *Imposto sobre Circulação de Mercadorias*, (ICMS), the biggest of them, represents a quarter of the taxes (Afonso et al., 1998). The ICMS imposes taxes on every transaction related to goods and services. The four other main taxes are the Contribution to Social Security; IRRF; *Contribuição para o Financiamento de Seguridade Social* (COFINS), a tax for social contribution and; *Imposto sobre Produtos Industrializados* (IPI), and taxes over industrialized products.

As our project will focus on tax over payments remitted abroad, it is important to describe which taxes we are referring to. The taxes involved in the remittance are IRRF, CIDE, PIS/Importação, COFINS/Importação, ISS and IOF. As we already mentioned the only one which can vary from country to country and has the possibility to be compensated by the renderer of the service is the IRRF, that's why we will focus our project on this specific tax.

The problem found today is that there are too many different agreements, a lack of communications between company's department, specially the legal/tax and procurement ones and no system availability with all of this information. Also simple things as doing or no a gross up process are not easily understood to be implemented.

To explain our project, we will use a practical example where we initiate a service with some American companies. Using the estimated volume of IRRF calculated by the researchers, we will only consider the volume paid during 2017 when hiring services from American companies. The volume represents 48.52% and we can convert it to United States dollar (USD) by using an average rate for BRL/USD during all year 2017 (3.1923). This gives an estimated amount of USD~187 MM of services hired from American companies.

IRRF is levied on the acquisition of services from abroad. In our example, the IRRF rate is 15%, considering that USA is not a tax-haven according to Brazilian IRS - Receita Federal do Brasil. The procedure adopted today by Brazilian Airlines is to gross up the IRRF amount in a sense that it is a cost for the company and not for the renderer of the service. In this situation the services with the gross up of the IRRF will represent a total of USD 33 MM ( $(187\text{MM}/(1-0.15)*15\%)$ ) going out of cash flow, with USD 187

MM for labor services to the suppliers and an additional 33 MM USD to pay the IRRF for the Brazilian authority. Subsequently, the American companies will have to pay tax over that income (profit). As the American companies will receive USD 187 MM, it is necessary to pay tax over it. Let's assume there is a rate of 20% that they need to pay on that value in their country, so in the end that means that the American companies will receive USD 149.6 MM as a net amount. See the detail of this transaction on Figure 1:

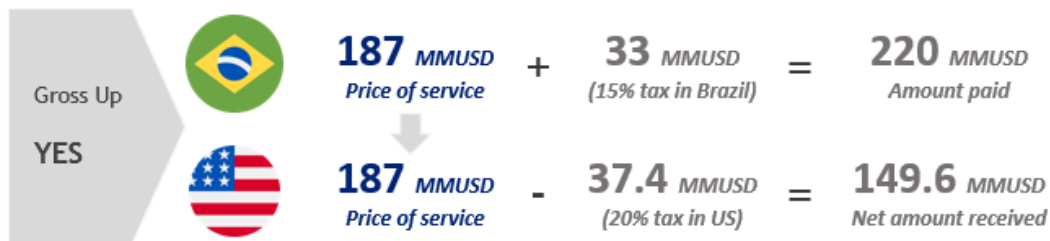


Figure 1 Example of a transaction with gross up process

Brazil maintains reciprocity of treatment with USA promulgated by *Ato Declaratório SRF N° 28, de 26 de abril de 2000* that allows American companies to compensate the amount of tax payable abroad USA territory in the amount payable to the Internal Revenue Service (IRS) of USA. According to IRS (2018) if an American company paid or accrued foreign taxes to a foreign country and is subject to taxation in the USA at the same income level, it may be possible to take either a credit or an itemized deduction.

Taking into consideration that the Brazilian Airlines are able to negotiate the tax clauses under the agreement to reflect that all payments will be remitted withholding the IRRF, it is possible to generate a savings without affecting the net amount to be received by the supplier. Let's use the same example, but now considering a new approach that we will propose and explain in our project through the next chapters.

The difference begins when a Brazilian Airline remits the payment. Instead of doing the gross up, now the amount will be paid with the discount of the IRRF, so the amount payable to suppliers will be USD 158.95 MM (USD 187 MM – 15%) considering the same rate of 15%, and the amount of IRRF payable to Brazilian authority will be USD 28.05 MM. With this procedure, the Brazilian Airline Companies will have an outflow of USD 187 MM. The American companies still needs to pay tax over that income of USD 187 MM, because the amount billed was USD 187 MM. Let's consider the same rate of our previously example of 20%. The American companies needs to pay USD 37.4 MM to the IRS, but now the Brazilian Airlines can provide an IRRF proof of payment, a local document called DARF, so the American companies can justify that USD 28.05 MM of USD 37.4 MM due to IRS is already paid in Brazil and just the difference needs to be paid (USD 9.35 MM). In this transaction, we can conclude that in the end, the net amount received by American companies is the same USD 187 MM, and will have the cash effect of USD 149.6 MM (after the payment of taxes in its country), as in the previous example. However, in this situation, the amount paid by Brazilian Airlines is USD 33 MM less, generating a saving that will positively impact Brazilian Airline companies profit and cash flow. See this example of not doing the gross up on Figure 2.

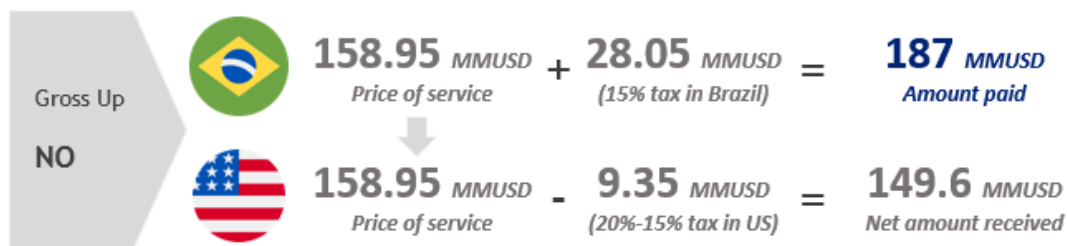


Figure 2 Example of a transaction without gross up process

### **Project Goals and Scope**

The main objective of the present end-of-course project is, on the one hand, review the law for the purchase and sale of goods and services among other countries in relation to Brazil from the tax point of view to make procurement processes more efficient; on the other hand, the objective is to analyze the findings and then generate a negotiation procedure for the procurement area to take it into account before closing a negotiation. The interested parties that in some way will be positively affected would be all the partners and stakeholders of the airlines.

Based on the results of this project and in accordance with the indications shown by the financial area of one of the Brazilian Airlines, we expect to reduce a significant amount of tax cost related to payments abroad impacting positively the profit and the cash flow.

### **Contributions Expected from the Project / Importance of Topic**

The topic has a significant importance to any Brazilian air carrier that is hiring third-party services in the aviation industry located abroad, considering the huge amount of money involved. This project will involve some stakeholders such as, financial department, procurement, maintenance, continuous improvement (process and procedures) and companies which provide services to Brazilian air carriers.

As mentioned before, the Brazilian Airline Carriers usually get quotes from different countries abroad. That's makes necessary to organize all information related to pricing services and taxes that are available for each country and as we already explained here the cost of tax is not considered. The expected outcome is a procedure that suggests

credit in tax negotiations respecting all agreements that already exist and considering the cost of tax in those negotiations, so only focusing on cost reduction.

There are some implications such as, regulations, agreements, taxes, and laws for different countries that cannot be changed so the procedure must follow these rules to get the best result of any negotiation.

### **Definition of Terms**

Portaria                      Ordinance that define the rules of a decree.

### **List of Acronyms**

BPM	Business Process Management.
BRL	Brazilian Real.
CIDE	Intervention Contributions in the Economic Domain.
COFINS	Tax for social contribution ( <i>Contribuição para o Financiamento da Seguridade Social</i> ).
DARF	Document of Federal Revenue Collection.
ICMS	Tax paid on the circulation of goods and services ( <i>Imposto sobre Circulação de Mercadorias e Serviços</i> ).
IOF	Financial Transaction Tax.
IPI	Taxes over industrialized products ( <i>Imposto sobre Produtos Industrializados</i> ).
IRRF	Withholding Tax ( <i>Imposto sobre a renda retido na fonte</i> ).
ISS	Tax Over Services.
PIS	Tax for Social Integration Program.
USD	United States dollar.

## Chapter II

### Review of the Relevant Literature

This Project is based on the IRRF laws and agreements that Brazil maintains today to avoid double taxation. In addition, Business Process Management literature is relevant to review the actual process and propose changes.

#### IRRF

IRRF (withholding tax) is not an exclusive tax of Brazil; it exists in almost every country in the world. In the fifteenth century in Florence a tax denominated *scalata* was created, it would be a predecessor of Brazilian income tax IRRF (Nóbrega, 2014). This tax, however, was not calculated based on income, but on capitalization so it did not last very long.

According to Nóbrega (2014), the modern history of the income tax originated in Britain in the seventeenth century. Such a tax arose as a means to raise funds in an era when the war between England and France was at its peak. England needed to raise funds to finance the war and so people were taxed according to the income consumed, that is, the goods of the people. Over time this tax was undergoing changes and William Pitt requested that the tax be on expenses and taxed on income. This tax became final, under the name Income Tax.

With the success of Income Tax, Germany also decided to adopt a tax system in their country. In this system, all income of professional work and liberal professionals were taxed. In other countries, like Italy, tax was instituted in 1894 and was charged on any movable income (Nóbrega, 2014).



In addition to these countries, the United States also began to tax personal incomes in 1861 (Nóbrega, 2014). People were taxed with a progressive table of gains and this model was well accepted until the end of the Civil War. After the end of the war, the tax suffered several criticisms and was withdrawn. In 1909, the country needed resources, and then-President William Taft appealed to Congress and succeeded in getting Constitutional Amendment number 16 approved and American income tax instituted.

In France the income tax had its first application in 1916. In the project of France, it is mandatory to file a tax return and it was calculated as a primary tax, divided in eight, according to the origin of the income, with a progressive supplementary tax. This model was what inspired the tax that is used in Brazil. Brazil created the IRRF in 1922, promulgated by law 4.625, de 31 de dezembro de 1922 becoming the most important tax in Brazil nowadays.

This project is focused on IRRF over payments from Brazil to foreign countries. In general terms, payment to abroad due to the acquisition of technical services is subject to the IRRF at the rate of 15%, as established in article 3 of the Provisional Measure 2.159-70/2001.

*MEDIDA PROVISÓRIA No 2.159-70, DE 24 DE AGOSTO DE 2001.*

*“Art. 3º Fica reduzida para quinze por cento a alíquota do imposto de renda incidente na fonte sobre as importâncias pagas, creditadas, entregues, empregadas ou remetidas ao exterior a título de remuneração de serviços técnicos e de assistência técnica, e a título de róalties, de qualquer natureza, a partir do início da cobrança da contribuição instituída pela Lei no 10.168, de 29 de dezembro de 2000.”*

It is important to highlight that IRRF over payments remitted to abroad is retained and the taxpayer is the service provider, so as a legal rule, the value should be withheld. However, it is often commercially agreed that the borrower pays the amount of tax, which is done by a gross-up clause under the agreement.

### **Double Taxation**

Especially on developing countries, globalization can be really helpful by helping countries to increase the exportation and also by allowing them to have access to services that they wouldn't have domestically (Braga, 1996). Creating liberalization for trades and services can be good and help reduce barriers to different kind of sectors (Deardorff, 2001).

Braga (1996) stated that developing countries will need to adapt their regulatory environments so they can capture opportunities that starts being offered by the internationalization of services. That will allow countries to acquire services that are not available or produced domestically or maybe not in a price or quality needed (Braga, 1996).

Due to a proliferation of those services connecting different countries, and both of them applying tax discounts, the double taxation started (Ribeiro, 2012). Countries begun to understand the different trades they had between each other's and created conventions. The goal of these conventions was to avoid the double taxes paid in both countries and inform both the supplier and the client of their rights and obligations. International Organizations created Model Conventions that provide standards or conventions, and contracts that helped countries on the development of the international treatments (Ribeiro, 2012).

The Organization for Economic Co-operation and Development (2017) provides a model of Tax Convention that can be used to write:

- Scope of convention: that defines persons and taxes covered;
- Definitions: general definitions, resident, permanent establishment;
- Taxation Income: Business profits, International Air Transport, Interest, Dividends, Capital gains, Government services, etc.;
- Taxation of Capital;
- Methods for elimination;
- Special and final provisions.

The main rule of the double taxation is that if you are providing a service that has the same tax applied in both countries, you'll only need to pay it in one of them (Ribeiro, 2012). It needs to be the same kind of tax and not the same amount. That means that if the negotiation that's being made between countries has a connection element determined in the conventions, the reduction of taxes can be done.

Conventions of that matter can be used to stimulate cooperation between countries and even the starting of new business and agreements all around the world. For emerging countries like Brazil, this idea is very attractive, since we are not able to supply all the needs that we have domestically. Any tax incentive allows companies to reduce costs and have more opportunities of growth.

### **Brazil Double Taxation Agreements**

Nowadays Brazil maintains agreements with 34 countries to avoid double taxation and have reciprocity of treatment with United States of America that allows companies in both countries to utilize those credits to avoid double taxation depending of the case.

We already know the needs of Brazilian airlines to hire maintenance and technical services out of Brazil, so we can analyze the current laws and agreements to confirm that. Brazil and France agreement is the best example of how it should work, because France does not classify technical services as a royalty.

*Instrução Normativa RFB nº 1.455, de 6 de março de 2014* determines what is considered a technical service and technical assistance, for purposes of determining the IRRF incidence on payments made to a foreign domiciled company at the rate of 15%, as described below:

*“Instrução Normativa RFB nº 1.455, de 2014.*

*CAPÍTULO XVI DA REMUNERAÇÃO DE SERVIÇOS TÉCNICOS,  
ASSISTÊNCIA TÉCNICA E ADMINISTRATIVA E ROYALTIES.*

*Art. 17. As importâncias pagas, creditadas, entregues, empregadas ou remetidas a pessoa jurídica domiciliada no exterior a título de royalties de qualquer natureza e de remuneração de serviços técnicos e de assistência técnica, administrativa e semelhantes sujeitam-se à incidência do imposto sobre a renda na fonte à alíquota de 15% (quinze por cento).*

*(...)*

*II - considera-se:*

*a) serviço técnico a execução de serviço que dependa de conhecimentos técnicos especializados ou que envolva assistência administrativa ou prestação de consultoria, realizado por profissionais independentes ou com vínculo empregatício ou, ainda, decorrente de estruturas automatizadas com claro conteúdo tecnológico;*

*b) assistência técnica a assessoria permanente prestada pela cedente de processo ou fórmula secreta à concessionária, mediante técnicos, desenhos, estudos, instruções enviadas ao País e outros serviços semelhantes, os quais possibilitem a efetiva utilização do processo ou fórmula cedido.”*

It is clear that technical service and technical assistance should be subject to the payment of IRRF, however article 98 of *Lei no 5.172, de 25 de outubro de 1966 (Código Tributário Nacional – CTN)* provides that international agreements and conventions must be observed, as described below:

*“Art. 98. Os tratados e as convenções internacionais revogam ou modificam a legislação tributária interna, e serão observados pela que lhes sobrevenha.”*

Before observing the international agreements, it is important to take into consideration *Ato Declaratório Interpretativo RFB nº 5, de 16 de junho de 2014*, that explains how we should classify technical services: profit of company according to article VII of the agreement or as a royalty according to article XII of the agreement. The document clarifies that we must follow what is described in the agreement, if there is any instance of classifying technical services as a royalty, we need to retain IRRF here in Brazil and abroad. However if the agreement does not classify technical service as a royalty, we are able to classify the payment as a profit to the company according to article VII of the agreement. In this case, the Brazilian companies do not need to retain (pay) IRRF locally in Brazil.

Brazil has entered into an agreement with France to avoid double taxation, which was promulgated by *Decreto nº 70.506/1972*. Article VII of the mentioned Decree determined that, the profits of a company of a contracting state may be taxed only in that

State, unless the undertaking carries on business in the other State by a permanent establishment situated therein.

As we can see, the agreement between Brazil and France does not mention any technical services in article XII. This article defines what we should classify as a royalty and that we need to retain IRRF locally in Brazil, so we can conclude that, the remittances made by Brazilian carriers to companies domiciled in France for payment of technical services and technical assistance, with or without technology transfer, do not have IRRF.

There are other agreements that work as the one between Brazil and France, which are the ones with Austria promulgated by *Decreto n° 78.107/1976*, Sweden promulgated by *Decreto n° 77.053/1976*, and Finland promulgated by *Decreto n° 2.465/1998*. So remittances made by Brazilian carriers to companies domiciled in those countries, for payment of technical services and technical assistance, with or without technology transfer, do not have IRRF too.

The remaining 31 countries classify technical services as a royalty according to article XII of those agreements and it results in an IRRF payment with different rates according to residence country of the hired company. We reviewed all agreements to determine the rates and produced the table below:

Table 1

*IRRF Rate by country where Brazil maintains an agreement in place*

Country	IRRF (Withholding Tax) Rate	Agreement	Article
Argentina	15,00%	Decreto n° 87.976/1982	Article XII

Austria	0,00%	Decreto n° 78.107/1976	Article VII
Belgium	10,00%	Decreto n° 72.542/1973 and Decreto n° 6.332/2007	Article XII
Canada	15,00%	Decreto n° 92.318/1986	Article XII
Chile	15,00%	Decreto n° 4.852/2003	Article XII
China	15,00%	Decreto n° 762/1993	Article XII
Czech Republic	15,00%	Decreto n° 43/1991	Article XII
Denmark	15,00%	Decreto n° 75.106/1974	Article XII
Ecuador	15,00%	Decreto n° 95.717/1988	Article XII
Finland	0,00%	Decreto n° 2.465/1998	Article VII
France	0,00%	Decreto n° 70.506/1972	Article VII
Germany	15,00%	Agreement with no effect since, January 2006	N/A
Hungary	15,00%	Decreto n° 53/1991	Article XII
India	15,00%	Decreto n° 510/1992	Article XII
Israel	10,00%	Decreto n° 5.576/2005	Article XII
Italy	15,00%	Decreto n° 85.985/1981	Article XII
Japan	12,50%	Decreto n° 61.899/1967 and Portaria MF n° 92/1978	Article XI
Luxembourg	15,00%	Decreto n° 85.051/1980	Article XII
Mexico	10,00%	Decreto n° 6.000/2006 and Ato Declaratório Interpretativo SRF n° 1/2007	Article XII
Netherlands	15,00%	Decreto n° 355/1991	Article XII
Norway	15,00%	Decreto n° 86.710/1981	Article XII
Peru	15,00%	Decreto n° 7.020/2009	Article XII
Philippines	15,00%	Decreto n° 241/1991	Article XII
Portugal	15,00%	Decreto n° 4.012/2001	Article XII
Russia	15,00%	Decreto n° 9.115/2017	Article XII
Slovakia	15,00%	Decreto n° 43/1991	Article XII
South Africa	10,00%	Decreto n° 5.922/2006	Article XII
South Korea	10,00%	Decreto n° 354/1991 and Ato Declaratório Interpretativo SRF n° 3/2006	Article XII
Spain	10,00%	Decreto n° 76.975/1976 and Ato Declaratório Interpretativo SRF n° 4/2006	Article XII
Sweden	0,00%	Decreto n° 77.053/1976 and Portaria MF n° 44/1976	Article VII
Trinidad and Tobago	15,00%	Decreto n° 8.335/2014	Article XII
Turkey	10,00%	Decreto n° 8.140/2013	Article XII

Ukraine	15,00%	Decreto nº 5.799/2006	Article XII
Venezuela	15,00%	Decreto nº 8.336/2014	Article XII

### **Reciprocity of Treatment between Brazil, United States of America and United Kingdom**

United States of America does not maintain a double taxation agreement with Brazil, but there is reciprocity of treatment in place, which means that, if the USA law allows companies to compensate tax imposed out of USA territory, the Brazilian companies can do the same as *Ato Declaratório SRF Nº 28, de 26 de abril de 2000* determines.

According to the Internal Revenue Service (2018), if an American company paid or accrued foreign taxes to a foreign country and is subject to taxation in USA at the same income, maybe it is possible to take either a credit or an itemized deduction.

The United Kingdom have the same procedure as USA, defined by *Ato Declaratório SRF Nº 48, de 27 de Junho de 2000*, so if the Brazilian carriers intend to hire a service of any company from these countries, it is necessary to negotiate the taxes clause to be able to withhold the tax and, in the other hand, the companies located in USA and UK will be able to compensate the IRRF payment.

### **Tax-Haven Jurisdictions**

According to *Instrução Normativa RFB nº 1.455, de 6 de março de 2014* if a company is located in a tax-haven jurisdiction, the IRRF rate must be 25%. *Instrução Normativa RFB nº 1037, de 04 de Junho de 2010* determines the list of countries that Brazilian fiscal authority considers as a tax-haven, as you can see below in table 2.



Table 2

*List of tax-haven according to Brazilian fiscal authority (Receita Federal)*

Country
American Samoa
Andorra
Anguilla
Antigua and Barbuda
Aruba
Ascension Islands
Bahrain
Barbados
Belize
Bermuda
British Virgin Islands
Brunei
Campione D'Italia
Cayman Islands
Channel Islands (Alderney, Guernsey, Jersey and Sark)
Community of The Bahamas
Cook Islands
Curacao
Cyprus
Djibouti
Dominica
Federation of Saint Kitts and Nevis
French Polynesian
Gibraltar
Grenade
Hong Kong
Ireland
Isle of Man
Kiribati
Lebanon
Lebuan
Liberia
Liechtenstein
Macao
Maldives
Marshall Islands
Mauricio Islands

Monaco  
 Montserrat Islands  
 Nauru  
 Niue Island  
 Norfolk Island  
 Panama  
 Pitcairn Island  
 Queshm Island  
 Saint Helena Islands  
 Saint Lucia  
 Saint Martin  
 Saint Vincent and the Grenadines  
 San marino  
 São Pedro and Miguelão Island  
 Seychelles  
 Solomon Islands  
 Sultanate of Oman  
 Swaziland  
 Tonga  
 Tristan da Cunha  
 Turks and Caicos Islands  
 United Arab Emirates  
 US Virgin Islands  
 Vanuatu  
 Western Samoa

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### **Business Process Management**

According to Hammer (2014), Business Process Management (BPM) has two antecedents: Six Sigma and Reengineering. Those are techniques created in industry to control performance, assure standards and clarify processes defined. Having a process that is well written and defined helps companies to understand each step that leads to the resolution of an activity. It also helps to establish controls and continuous improvement. BPM is known as a technique to understand and design all the processes that generates economic value to a company. By definition, all the processes are the ones that have defined input and output.

What sometimes people do not see is how the steps of that process and the way they are done generate value to the final input (Baldam, ABEPRO, & Rozenfeld, 2014). BPM is a technique that can give savings to the company that uses it. In Heathrow Airport, one of the busiest in the world, BPM implementation helped them save about £30 million in 2010 (Viewpoints, 2018). In the airport, the BPM was not only used in design, construction or maintenance projects but also in the business process management process. They made a designed in-house process of all the sequence of processes from when the plane touches down the runway and leave it again. From that they did optimize each process and easily managed unusual scenarios by some rules they created in their system. With that new tool they were able to increase their on- time performance from 68 to 83 percent and also by saving 90 liters of fuel per flight due to the optimization process on the runway (Viewpoints, 2018).

The utilization of a new technique needs to have an objective to be implemented. On the Appian (2014) case, for example, BPM was used in Melbourne Airport to modernize safety inspections, customer responsiveness' and incident management. The Melbourne Airport is the second busiest airport in Australia and the primary airport in the city of Melbourne (Appian, 2014). With the design of the process using BPM, they changed from a paper based data collection to an automated process. That accelerated their processes giving more awareness to the problems and accelerating responsive actions to issues.

### **BPM Application**

As any other change and improvement in a company, the use of BPM needs to have support from all areas involved and from the top managers. In cases of BPM applied

on enterprises, external factors, top management support, standards and communication are listed as important points in the implementation phase to assure that the BPM adoption is successful (Vukšić, Brkić and Tomičić-Pupek, 2018).

Modeling and understanding a process is easy. You need to discover the process that needs to be modeled, define and describe how the process is done, communicate and share it with the people involved and finally try to making it easier, more profitable and/or having a better return (Ould, 2005).

To design the process Plenkiewicz (2010) defined which attributes need to be defined and collected:

- The goal, objectives and quantifiable results;
- Specific Inputs;
- Specific Outputs;
- Number of activities that are performed;
- Resources.

These attributes led to a graphic representation of the process (Figure 3). This allowed a visualization of the resources, activities and results to come out of the process. The process need to be defined “as is” in order to determine the process “to be”. Both of the processes need to be validated by a technical expert that is lined to the process (Plenkiewicz, 2010).

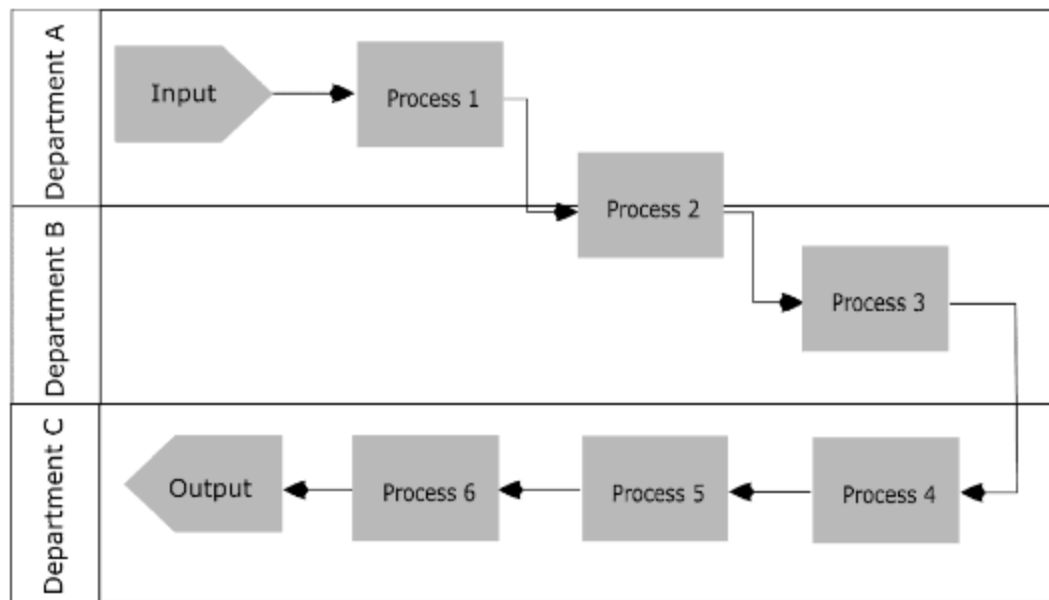


Figure 3 Example of process driven organization (Plenkiewicz, 2010)

Bandara & Opshal (2017) detailed in their study case for a small enterprise in Norway all the steps to success in implementing BPM in a company. After understanding the organization and its value and strategy, they make a stakeholder analysis to understand their power and interest in making changes in the organization. For their implementation, one of the main problems and issues, especially for being a small company, was the commitments of people and alignment to the company's values.

To assure that all the BPM information is acquired, Plenkiewicz (2010) suggest the following steps to capture the process. There is not a restricted order that need to be followed, but the sequence of steps could be:

- Identify outputs and customers;
- Identify inputs needed for the process to produce outputs;
- Identify suppliers;
- Identify process steps and the preliminary sequence.

With all those steps done the process can be validated and reorganized also with the validation of the technical expert defined. This helps to capture the process in a systematic way. The method does not require advanced tools nor sophisticated background. All the elements can be defined in brainstorming sections.

Brocke, Schmiedel & SpringerLink (2015) affirmed that BPM today is a technique suitable for diverse natures of processes but there is a need to understand how to apply it in those different types of areas. One of the techniques sorted by them states that the analysis can be guided by simple principles of BPM to build long term innovations. The main idea is to understand the purpose of the process and how to generate value for it.

Vukšić, Brkić and Tomičić-Pupek (2018) considered in their study some consensual dimensions for adopting the BPM: Goals and objectives of the initiative, Scope and internal process characteristics.

All of those authors emphasize the importance of having a good alignment between the strategy and having a well-structured process. Vukšić, Brkić and Tomičić-Pupek (2018) suggested qualitative data to be collected through interviews with answered questions made in free-form. Structured interviews will only be needed to obtain quantitative data. The participating resources can be defined with the experts of the process. Those authors also analysed three cases on implementing BPM and measured them qualitatively by defining organizational, environmental and capability factors. The conclusions where that the use of BPM brought benefits in all of those three contextual dimensions (Vukšić, Brkić and Tomičić-Pupek, 2018).

In the Croatian International Airport Case (Vukšić, Brkić and Tomičić-Pupek, 2018) the need of structuring process came from the external environment and competition. The phases of the process of BPM implementation were to identify landscapes and goals of the process; discover the AS IS process in low level details; analyze the process and identify possibilities of optimization; make process changes and a TO DO propose of the new process. As shown in the article, that well-structured process of implementation led the Airport to a successful adoption on the

BPM strategy that left the company with good evaluations on reputation and compatibility.

According to Alter & Recker (2017), a new model of process can be an outcome when a diagnostics of an actual process is made. Understanding a process might lead to an understanding that a new one needs to be implemented. When that happens it is important to have a good understanding on how the process is done and how to make some changes or repairs to build a new one.

### **Summary**

Throughout this chapter, we could understand how and when the double taxation agreements and cooperation between countries started to be a toll to stimulate trades and savings between countries. The IRRF is one of the main taxes applied on services today in Brazil. All of the 34 agreements that apply for trading between Brazil are listed in this chapter. There is also some review about reciprocity treatments among other countries and Brazil.

As a good technique to analyze how to assure that these saving opportunities become a reality in companies, the review of BPM helped us understand ways and

methods to design a company process. That would lead us to a better understanding of the acquisition process and acknowledge integrating the double taxation.



## **Chapter III**

### **Methodology**

As we will review a process and laws to create a new process when hiring abroad services for Brazilian companies, we will use a qualitative methodology. According to Berg (2012) a qualitative research is focused in the meaning, concepts definitions, characteristics, metaphors, symbols, and description of things and not to their counts or measures. Since the main objective of this work is to understand the different laws and agreements that exist in Brazil and apply them into an airline reality no qualitative analysis will be needed at this moment.

### **Business Process Management**

BPM is a technique to identify all of the processes in a company. In this project, only one identified process will be explored and will have a change proposal. Based on the previous literature review, we proposed a research model and design process for this works with 5 steps (Figure 4).



*Figure 4* Process Management Methodology

### **Identify objectives of the process**

At this stage, it is necessary to understand the objective of the process and the areas involved. To complete this task, a conversation with an expert, in our case the Tax Manager of one of the Brazilian Airlines was conducted to understand the process and the importance of the subject.

We did it through an informal conversation promoted by one of our group members and the Tax Manager of one of the Brazilian Airlines. During the conversation the problem was clarified and defined. With that we went to the next step that would help us identify who could guide us through the important steps of the process.

### **Identify stakeholders**

Before we proposed any change or review in the actual process, it was necessary to understand all the stakeholders involved in the actual process. Based on the study cases of the literature, we used the methodology that suggests qualitative data to be collected through interviews with answered questions made on a free-form, with no particular question. Then, we identified the stakeholders indicated by the Tax Manager in the first meeting. There were two stakeholders from the procurement department involved. They were approached by one of the members of the project through an informal conversation. There weren't specific questions, the main objective was to understand all the steps, activities and tools used in the quotation of a service abroad.

### **Identify inputs and outputs**

The output identified is the service provider decision, at first sight it looks pretty simple, however the output or decision takes many inputs into consideration.

To identify inputs and outputs at this stage, we had a second meeting with the Tax Manager to define the inputs necessary to develop our technical knowledge of the subject. All the literature review described in chapter 2 was identified after this meeting, because without this knowledge, it would be impossible to understand the complexity of the subject as it involves a lot of laws and regulations.

### **Process: design, diagnostic and new proposal**

After our literature review it is time to design the process “as is”, do our diagnostic and propose our “to be” process to fill the gaps identified.

During the same informal meetings done on the second step, the proposal of the actual process “as is” was done.

To develop our diagnostic, we simulated some scenarios considering the actual process to understand if they had any gaps involved when hiring services abroad.

After we simulated and made our diagnostic, we started to draw the new process “to be”. It was presented to the Tax Manager to review and ensure the applicability. Some changes were recommended and were taken into consideration. The final version was validated with the Tax Manager, acting as our subject-matter expert.

### **Define repairs and new initiative**

We proposed to develop a tool to fill the gaps identified on the actual process. To develop this tool, we utilized Microsoft excel and Microsoft access, two programs already licensed to all Brazilian airlines companies and that will not require any investment.

The tool developed intends to take into consideration all inputs and create something very easy to use, avoiding any misunderstanding or bringing more bureaucracy to process.

### **Summary**

All of the five steps made in the data collection and process definition were detailed in Figure 5. Focused on the service acquisition process, the three main parts of the steps were described.

On the “What?” column, what needed to be done on each of the steps was identified. Each point listed on that column will likely be an outcome of the process. The “How?” column described how the first column items will be achieved and the way the group defined it should be done.

On the last column, we listed the outcomes obtained on all of the steps made on this work. These outcomes are specific for the service acquisition process studied here. They detail, based on the second column, the outcomes obtained like: who are the stakeholders, how many agreements are considered and how we are proposing to change the process.

Phases of project	What?	How?	Outcomes for Service acquisition
<b>1. Identify objectives of the process</b>	1.1. Understand why the process of acquisition is done, the importance of it and areas involved	From information given and the subject-matter expert.	1.1. Tax Manager
<b>2. Identify stakeholders</b>	2.1. Identify who all the employees involved on the process of acquisition. 2.2. Identify the different areas that support the process.	Trough Interviews made on free form.	2.1. Procurement Department 2.2. Tax and Legal department
<b>3. Identify inputs and outputs</b>	3.1. Identify inputs 3.2. Identify oputputs	Trough Interviews made on free form.	3.1. Inputs: - 34 double taxation agreements; - 2 reciprocity of treatment documents; - Actual formal process of procurement; 3.2. Outputs: - Service Provider decision;
<b>4. Process: design, diagnostic and new proposal</b>	4.1. Process Design AS IS 4.2. Diagnostic of actual process 4.3. Process Design TO BE	Informal brainstorming secions with subject expert and stakeholders	4.1. Two informal conversation secions with subject expert and Procurement Department 4.2. Desing of new proposal by project team 4.3. Validation of process TO BE with subject-matter expert
<b>5. Define repairs and new initiatives</b>	5.1. Identify how to apply the process changes proposed 5.2. Validate with subject-matter expert and stakeholders	Propose inciatives, methods or tools to repair the process	5.1. Creation of a tool to help the new step added to the process 5.2. Validation with Procurement Department and Tax Manager

Figure 5 Description of Process Management Methodology on the Service acquisition

## **Chapter IV**

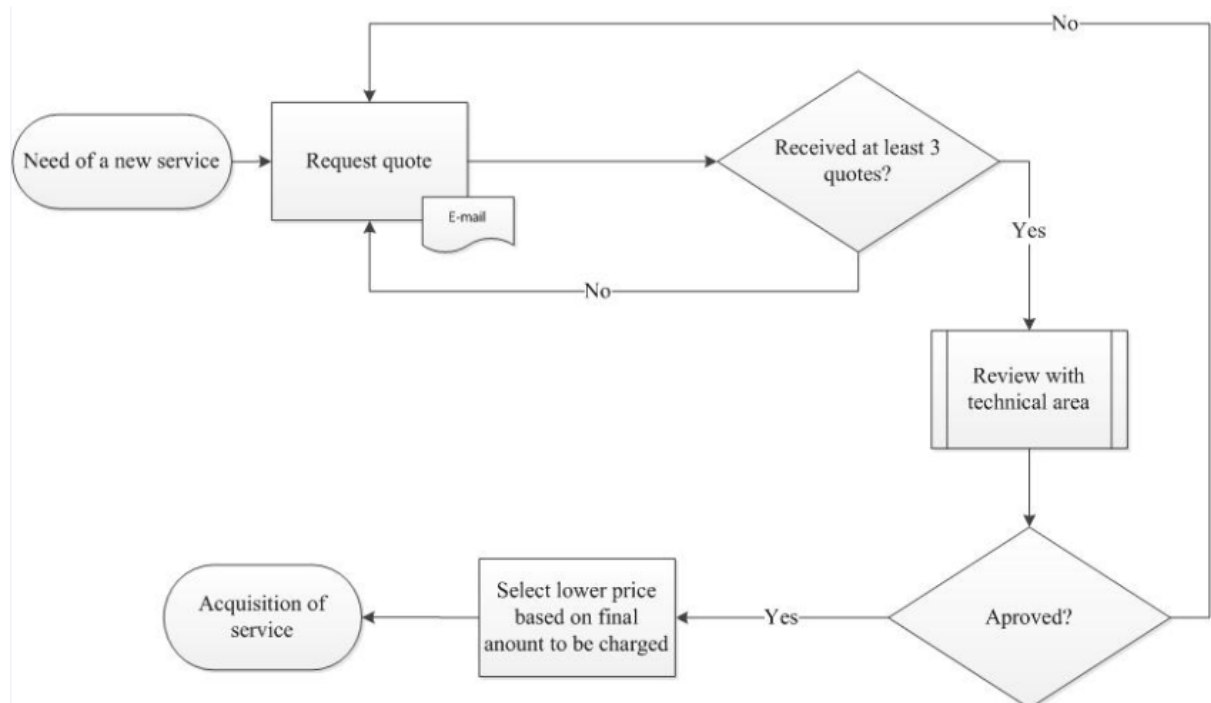
### **Outcomes**

The main outcome of this project is to change the service acquisition process done by the airlines. From the informal conversations and meetings with the Tax manager, it was clear to see the importance of taking into consideration the tax impact when hiring services abroad.

Applying the BPM methodology we've designed the process done today on the service acquisition. With the process AS IS designed it was clearly to identify the gap on the actual process. From that, the process TO BE was built to fill this gap. Also, to make the change more effective and have a good follow up of the process in the future, we created and proposed a tool to be used in this process.

### **AS IS Process**

After conducting some informal interviews during our BPM process we were able to understand the actual process to hire services abroad, as described below in Figure 6.



*Figure 6* Actual Process on the Service acquisition

The process starts with determining the need of hiring a service that could be for maintenance, for example. This need comes from a technical department so the procurement team can choose the best service for the company. The quotations are required for all the suppliers registered in the company's register of supplier. After at least three quotes are received, the technical area that made the request needs to be consulted to ensure that all of the technical aspects are covered in the quotations.

With the approval of those applicants the procurement team chooses the supplier that offers the minimum price for the same service. That's the end of the process and that's where the problem was identified.

As it can be seen, the process makes the choice of supplier based only on the final amount proposed on the quotation. There is an absence of tax consideration when



selecting the supplier. Country of origin and agreements established by Brazilian laws don't come into consideration in the analysis.

Not considering the agreements can be tricky. We'll use an example to show its impact. Consider a quote for an engine maintenance abroad, receiving proposals from two companies, one located in France and another one in United Arab Emirates.

Table 3

*Example of quote for an engine maintenance without include the IRRF tax*

Company	Country	Cost of Service
Company A	France	100.000
Company B	United Arab Emirates	90.000

In this example, Company A offered the same service as Company B for 100.000 and 90.000 respectively. It is clear that the company from United Arab Emirates offers the best price. In the AS IS process that considers only the final price charged Company B will be chosen.

And there is where the problem begins. The amount of IRRF to be paid was not considered when evaluating the proposals. Considering that in this example there is an agreement that establishes a gross up clause for France, the IRRF payment can abstain. If the tax impact is considered, the final amount paid by the company won't be the same as charged by the supplier.

Taking a look at Table 4, there is a 25% of IRRF tax to be paid on final amount charged by the supplier B. The price offered by Company B was better but the negotiation with the French company will be the best one. Considering this tax in the

analysis, not only changes the result of the decision of the actual process, but also allows a saving from about 16% on the money spent on the transaction.

Table 4

*Example of quote for an engine maintenance including the IRRF tax*

Company	Country	Gross up?	Cost of Service	IRRF rate	IRRF amount	Final Amount
Company A	France	NO	100.000	0%	0	100.000
Company B	United Arab Emirates	YES	90.000	25%	30.000	120.000

### **Diagnostic of Actual Process**

The question is: why this happens? According to our evaluation of the actual process, it happens because the procurement department does not have any knowledge about these taxes and overlook it during negotiations. If they had access and knowledge of this information the outcome would be different.

Once they review the tax agreements, it would be easier to realize that United Arab Emirates is a tax haven jurisdiction according to Receita Federal do Brasil and have an IRRF rate of 25%. On the other hand, a technical service paid to a company located in France does not have the IRRF, due to the application of the Double Taxation Agreement signed between Brazil and France.

So the final diagnostic seen for the actual process is:

- Procurement department doesn't have the acknowledge of agreements and tax haven jurisdiction;
- Procurement department doesn't know how to apply the quotations to the agreements and tax haven jurisdiction.

With this diagnostic, we could proceed to design the process to be that needs to include taxes agreements into consideration without requiring a big acknowledgement of the resources involved in the transactions.

### TO BE Process

To solve this kind of problem, we propose a new process, but now including the impact of tax when hiring services abroad, as described below on Figure 7. It's just one more step in the daily activities done but that can result in big savings.

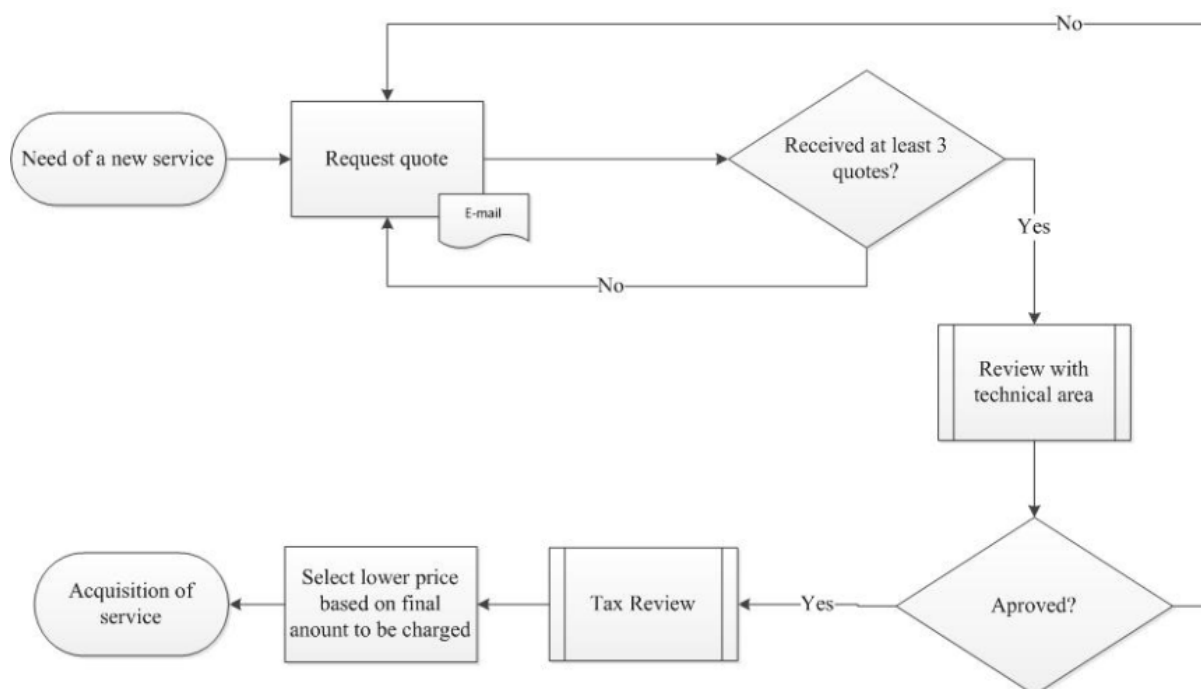


Figure 7 Proposal Process on the Service acquisition

To clarify how the tax review should be done, another process flow was created, to summarize how the different agreements should be considered. First we need to check if the country of service is the United States or the UK that have a specific tax of 15%. If it is a Tax Haven Country, an amount of 25% of IRRF should be discounted. Then, we need to check if the country has a double taxation agreement with Brazil. If it has there is a double check point to be done. If it has the agreement and classifies under article VII

there is no need to gross up. If there is an agreement but it does not classify on article VII the discount should be done based on Table 1. If the country does not apply in any of these cases, the IRRF to be discounted is 15%.

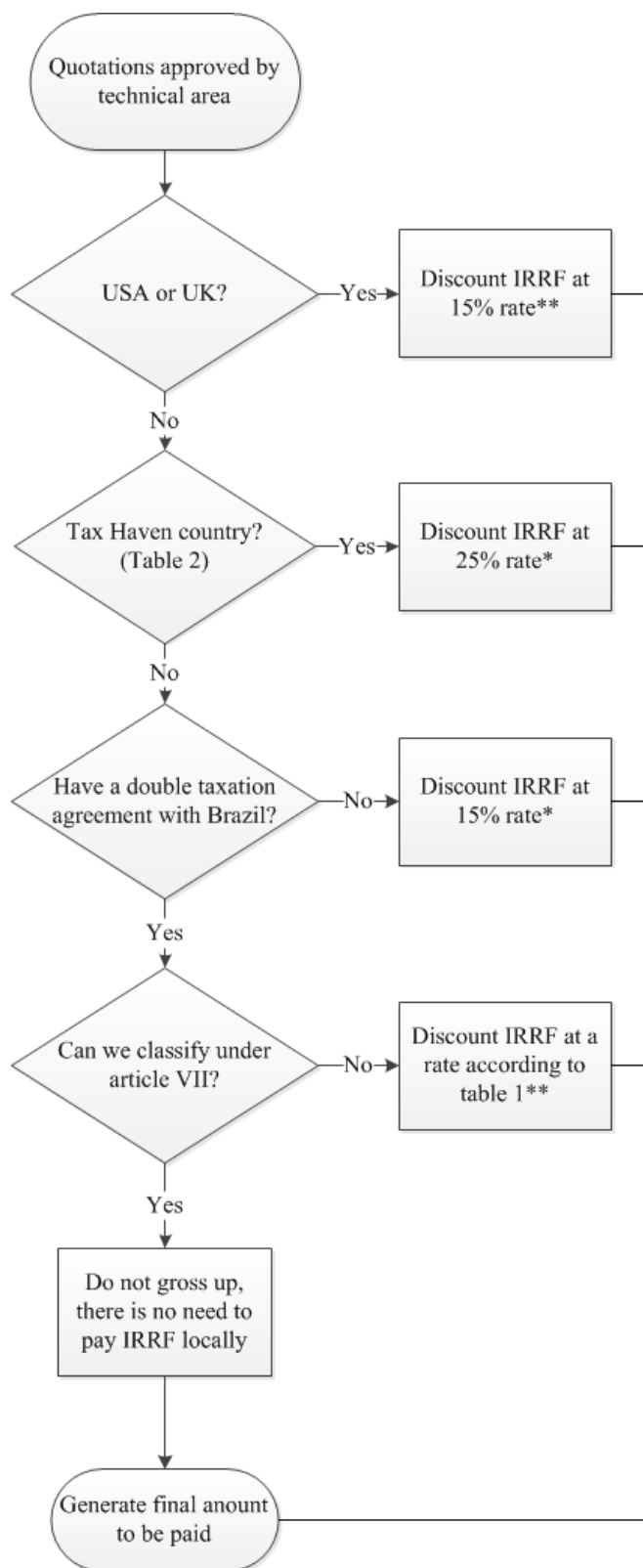


Figure 8 Tax Review Process

In those cases marked with a \* in the process, it is important to remember that the IRRF law establishes that the taxpayer is the company that is rendering the service. If the company located abroad is not able to utilize the amount paid in Brazil as a credit, we could accept the gross up.

For those cases marked with \*\* the tax clause should be negotiated with the supplier. That means that the company located abroad is entitled to utilize the amount paid in Brazil as a credit. That clause should allow the supplier to withhold the IRRF amount when remitting payment. If is not possible to negotiate the tax clause maybe we could accept the gross up in these cases.

Following all these steps can be complex for any person without knowledge about laws and agreements that determine the amount of tax. We found a need to compile all the information in an easy way so the procurement area doesn't need an expert on those agreements and any employee now or in the future can obtain the same quotation result.

To solve it we developed a tool using Microsoft Office Excel (Figure 9). It has the information of all the countries and how the different types of taxation applies. The objective of this tool is to be a user-friendly application that can be used by any person in the company. All details on how to use the platform are described in the Appendix.

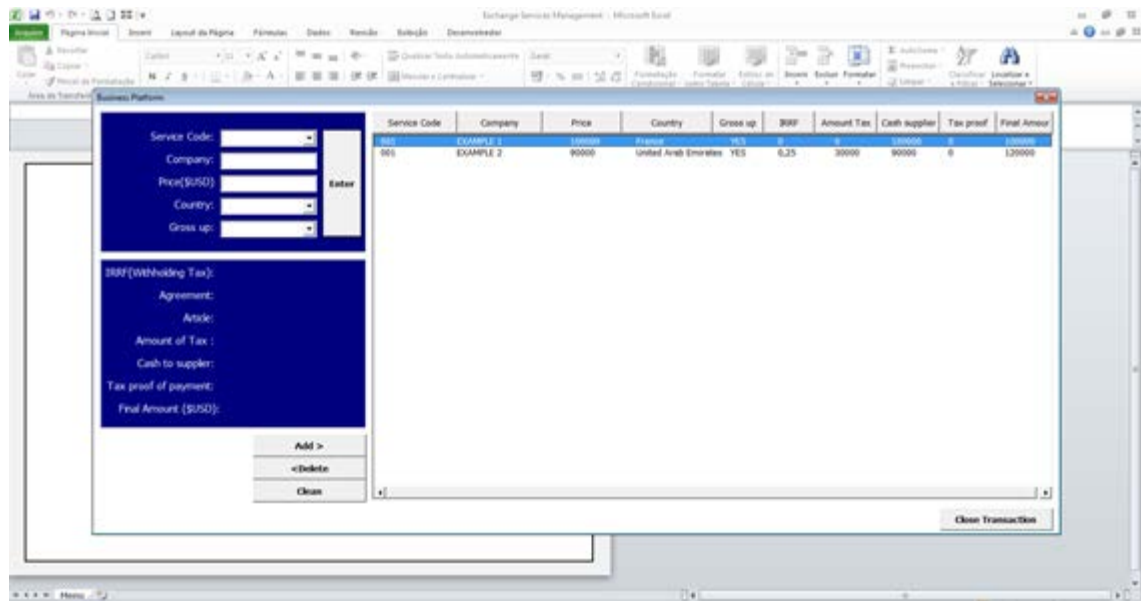


Figure 9 Exchange Management Services System

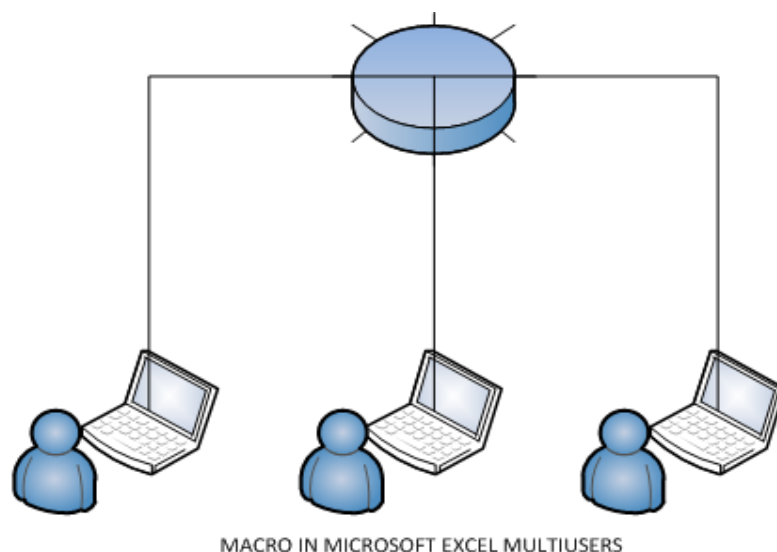
### Exchange Services Management System

The Exchange Services Management System developed in this project for the calculation of international negotiations, was created in Microsoft Excel, which is a computer program developed and distributed by Microsoft Corp. It is a software that allows accounting and financial tasks due to its functions developed specifically to help create and work with spreadsheets. Within this program there is also the possibility of creating macros using a developer in visual basic, which helps to automate those tasks that we do repeatedly.

A macro is a series of instructions whose main task is the automation of repetitive tasks and the resolution of complex calculations.

On the other hand, a database composed of tables in Microsoft Access was used. This is a program designed for the creation and administration of databases, for use within the Windows operating system, and is oriented so that people can manage their databases in an easy and practical way.

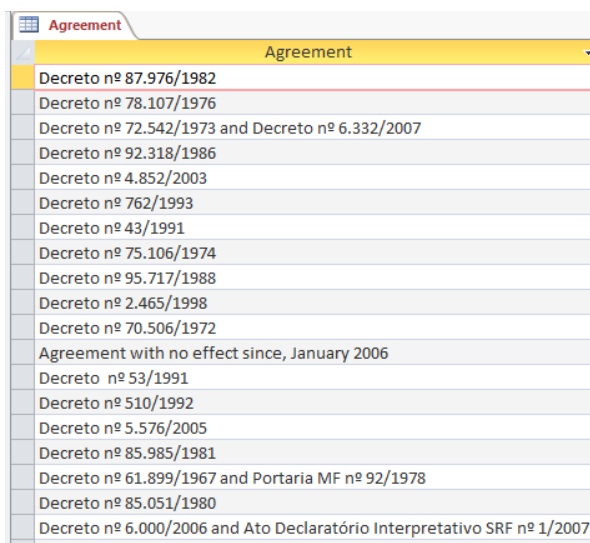
The Exchange Services Management System is a multiuser and has a macro installed on each computer, which feeds the information database in Microsoft Access that is installed in the corporate network. For better understanding see Figure 10, which graphs the behavior of the system.



*Figure 10* Multiuser connection

The database is composed of five tables. The first one, called Agreements, contains all the decrees and numbers to use as a reference for each type of transaction (Figure 11).

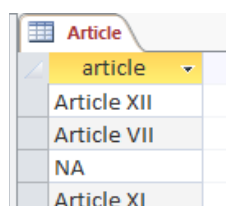




Agreement
Decreto nº 87.976/1982
Decreto nº 78.107/1976
Decreto nº 72.542/1973 and Decreto nº 6.332/2007
Decreto nº 92.318/1986
Decreto nº 4.852/2003
Decreto nº 762/1993
Decreto nº 43/1991
Decreto nº 75.106/1974
Decreto nº 95.717/1988
Decreto nº 2.465/1998
Decreto nº 70.506/1972
Agreement with no effect since, January 2006
Decreto nº 53/1991
Decreto nº 510/1992
Decreto nº 5.576/2005
Decreto nº 85.985/1981
Decreto nº 61.899/1967 and Portaria MF nº 92/1978
Decreto nº 85.051/1980
Decreto nº 6.000/2006 and Ato Declaratório Interpretativo SRF nº 1/2007

Figure 11 ESM Database – Agreements Table

In the second table (Articles), the article number that is related to each decree shown in the previous table can be found, see Figure 12.



Article
article
Article XII
Article VII
NA
Article XI

Figure 12 ESM Database – Article Table

The third table is where all the information of each of the transactions made in the past will be stored. Called *Banco* (Figure 13), this is the main database, in which the following data can be found:

- Code of each transaction; generated automatically;
- Code of each service; manually registered in the system;
- Company chosen to contract the service; manually inserted;
- Value of the transaction; entered manually;
- Country chosen to contract the service; selected from a list of options;
- Gross up option; selected from a list of options;

In this way automatically and according to the data inserted, the system generates:

- Related IRRF;
- Amount of Tax;
- Cash Supplier;
- Tax Proof;
- Final amount;
- Date and time of negotiation;

Banco										
Código	Item Code	Company	Price	Country	Groos up	IRRF	Amount Tax	Cash Suppli	Tax Proof	Final Amour
18	001	TESTE	1.000,00	Argentina	YES	15,00%	176,47	1.000,00	0,00	1.176,47
*	(Novo)		0,00			0,00%		0,00	0,00	0,00

Figure 13 ESM Database – Banco Table

In the fourth table, there is the detail of each agreement. The information about each country as code, IRRF for that country, and agreement, Decree or article related to it can be found on the *BD* Table (Figure 14). This table must be updated with current legislation so that the calculations are correct when analyzing a negotiation. This project suggest that all further updates must be conducted by the Tax Department.

BD					
Código	Country	IRRF	Agreement	Article	
10	American Sam	25,0000%	Tax haven	N/A	
11	Andorra	25,0000%	Tax haven	N/A	
12	Anguilla	25,0000%	Tax haven	N/A	
13	Antigua and Be	25,0000%	Tax haven	N/A	
14	Argentina	15,0000%	Decreto nº 87..	Article XII	
15	Aruba	25,0000%	Tax haven	N/A	
16	Ascension Islai	25,0000%	Tax haven	N/A	
17	Austria	0,0000%	Decreto nº 78..	Article VII	
18	Bahrain	25,0000%	Tax haven	N/A	
19	Barbados	25,0000%	Tax haven	N/A	
20	Belgium	10,0000%	Decreto nº 72..	Article XII	
21	Belize	25,0000%	Tax haven	N/A	
22	Bermuda	25,0000%	Tax haven	N/A	
23	British Virgin I:	25,0000%	Tax haven	N/A	
24	Brunei	25,0000%	Tax haven	N/A	
25	Campione D 'It	25,0000%	Tax haven	N/A	

Figure 14 ESM Database – BD Table

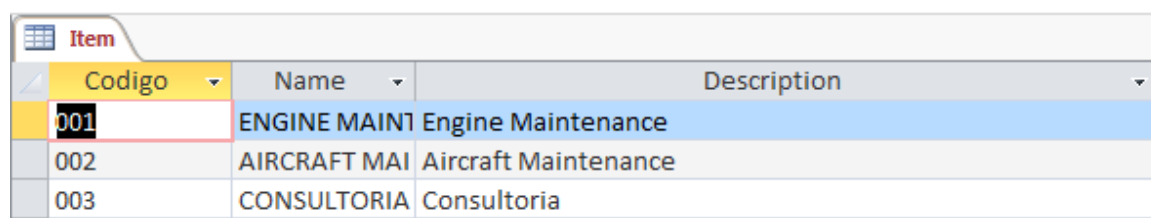
In the fifth table (Country), the codes corresponding to each country can be found. This functionality was putted in place so that the user can select the country directly from a box of options (Figure 15).



Codigo	Country	Cliq
1	Afghanistan	
2	Albania	
3	Algeria	
4	Andorra	
5	Angola	
6	Anguilla	
7	Antigua & Barb	
8	Argentina	
9	Armenia	
10	Australia	

Figure 15 ESM Database – Country Table

Finally, in the sixth table, called Item, there are all the possible services to be used. Those can be registered and inserted from the Excel system, which contains the code of each service (inserted manually); the name of each service (inserted manually); and a small description of each of them so that the user can identify exactly what they need to work with, see Figure 16.



Codigo	Name	Description
001	ENGINE MAIN	Engine Maintenance
002	AIRCRAFT MAI	Aircraft Maintenance
003	CONSULTORIA	Consultoria

Figure 16 ESM Database – Item Table

In conclusion, the Exchange Services Management System created is a calculator that allows registering the types of services and comparing contributions for these

services by country, considering all the variables that were shown in detail in this project, taking into consideration the current legislation. In this way, the user responsible for the acquisition of the service will not need to spend time analyzing the legislation by country or with calculations to make an election considering the price variable. Also, the possibility of error is minimal, generating a record in the database for future analysis.

## **Chapter V**

### **Conclusions and Recommendations**

The main objective of this project was to review the actual process to hire services abroad and identify opportunities to improve performance and reduce costs for Brazilian Airlines. The opportunity of reducing the double payment of taxes leads to a solution for saving a significant percentage of costs in different transactions.

#### **Conclusions**

The results of our project identified a gap in the actual process of hiring services abroad. That gap in the process indicates that a big percentage of the costs spent by Brazilian Airlines on that type of services could be saved. Through the application of BPM the gap was visually identified and the solution was easier to find. It led us to the understanding of the actual process and ended up with the proposal of a new process including the development of a new tool.

The main concern when developing this tool was for it to be user-friendly and available even to people without knowledge of laws and agreements. The tool was created in excel and considered all agreements and laws brought up in this project. That will make it easier to any commercial or procurement employee to understand and take it in consideration when hiring any service abroad.

This is a ready to use tool and it can easily assist in reducing the costs for Brazilian Airlines. No investment was needed to build it.

#### **Recommendations**

The opportunity to improve the actual process to hire services abroad is clear. If Brazilian Airlines adopt our recommendation and start to renegotiate at least agreements

with American companies to disregard the gross up process, it is possible to achieve an estimated saving around USD 33 MM per year.

This project recommendation to further studies will be to understand these laws and agreements to different kinds of transactions made in Brazilian countries within countries abroad. The taxation laws apply differently to acquisitions of services and products, for example. The Tax to be reduced will be different and maybe with a lower percentage but in airlines today any saving, however small, helps in increasing the airlines cost performance.

Also it will be interesting to validate in a formal process all the necessity's and opportunities from the airline company's in Brazil, since in this work all the interviews and consultations were made informally.

Beyond that a recommendation to Brazilian authority to put in place all agreements following the model of Brazil and France agreement could work perfect for Brazilian Airlines, considering that this agreement reduce the IRRF to zero when hiring services.

### **Key Lessons Learned**

From the start of this work project, we knew that we will probably find some opportunities of savings when looking closely to the existing laws and agreements between countries. We discovered that there are multiple types of small agreements that relate to the taxation of international transactions and that this information was not simplified in only one resource. We have also learned many things about economy, the needing of the international cooperation and the taxation in Brazil.

### **Further Possibilities**

It is important to mention if the company paid any tax unnecessarily there is a possibility to recover it through a process of proofing it to *Receita Federal do Brasil* and asking for a credit to be used in next payments remitted abroad. Companies can check and request it limited to five years in the past from the date of request.

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[LdjBAAAQBAJ&printsec=frontcover&dq=business process management&hl=pt-BR&sa=X&ved=0ahUKEwipkOi\\_ouXcAhVLG5AKHUBdC88Q6AEIKjAA#v=onepage&q&f=false](https://books.google.com.br/books?id=-LdjBAAAQBAJ&printsec=frontcover&dq=business+process+management&hl=pt-BR&sa=X&ved=0ahUKEwipkOi_ouXcAhVLG5AKHUBdC88Q6AEIKjAA#v=onepage&q&f=false)

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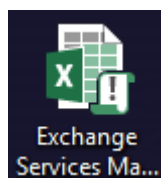
<https://data.worldbank.org/topic/trade>

## Appendix

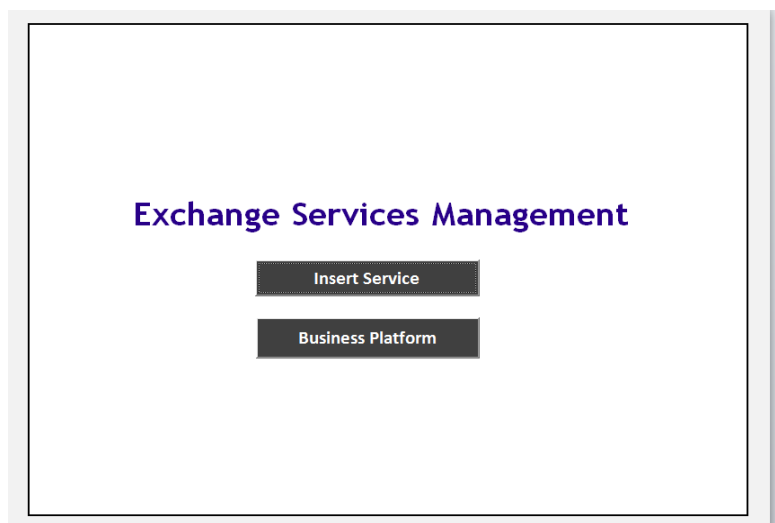
The platform Exchange Services Management (ESM) was designed to make sure that during hiring services abroad IRRF Tax agreements between countries are considered. This tool helps to fill the gap of knowledge of all the laws and agreements by all of the financial department's employees.

To make the process easy, the platform has a hands-on approach with special layout using light colors and clear buttons, making its use easy and friendly.

Open the ESM platform with any spreadsheet that allows macro formulas.



Once the spreadsheet is open, the layout below is shown.



There are two buttons available:

- Insert Service – insert a new type of service
- Business Platform - choose the service and insert others information to identify the best negotiation to be made.

## Insert Service

The 'Insert Service' window contains a form on the left and a table on the right. The form has three input fields: 'Service Code' with the value '003', 'Service Type' with the value 'CONSULTORIA', and 'Service Description' with the value 'consultancy'. Below these fields are four buttons: 'Add >', '<Delete', 'Clean', and 'Menu'. The table on the right has three columns: 'Service Code', 'Service Type', and 'Service Description'. It contains two rows of data: 001 ENGINE MAINT Engine Maintenance and 002 AIRCRAFT MAIN Aircraft Maintenance. The second row is highlighted in blue.

Service Code	Service Type	Service Description
001	ENGINE MAINT	Engine Maintenance
002	AIRCRAFT MAIN	Aircraft Maintenance

To add a new service in the system these steps must be followed:

1. Insert a number - in this example the 003 for service code;
2. Insert a service type – *Consultoria*;
3. Insert a service description – Consultancy.

By clicking on the *Add* button, the service inserted will be stored on the data base.

The 'Insert Service' window is shown after the 'Add' button was clicked. The form on the left now has empty input fields for 'Service Code', 'Service Type', and 'Service Description'. The table on the right now has three rows of data: 001 ENGINE MAINT Engine Maintenance, 002 AIRCRAFT MAIN Aircraft Maintenance, and 003 CONSULTORIA Consultoria. The 'Clean' and 'Menu' buttons are still present at the bottom of the form.

Service Code	Service Type	Service Description
001	ENGINE MAINT	Engine Maintenance
002	AIRCRAFT MAIN	Aircraft Maintenance
003	CONSULTORIA	Consultoria

As a result, there is another service registered (service code 003).

## Business Platform

To fill the button Business Platform those fields need to be inserted:

1. Code of the service chosen;
2. Company that the service is being hired from;
3. Total cost of service offered by the supplier (price);
4. Country on which the supplier belongs
5. Option if there is Gross up (can be YES or NO).

This must be inserted to all the different suppliers that are being evaluated on the consultation. To make a choice its simple! Just compare the different results between the companies, select it and press ENTER. That will save the choice on the Data Base.



Service Code:	001	Enter
Company:	COMPANY01	
Price(\$USD)	100000	
Country:	France	
Gross up:	NO	
IRRF(Withholding Tax): 0 Agreement: Decreto nº 70.506/1972 Article: Article VII Amount of Tax : Cash to supplier: Tax proof of payment: Final Amount (\$USD):		
Add >		
<Delete		
Clean		

Let's try to use the negotiation between France and Saudi Arabia. The first step is to choose the service code to hire. In this example, the comparison is made on code 001, related to Engine Maintenance service. The French company costs 10.000, so it is just needed to put this number on the Price (\$USD), select France as a country and inform if there is Gross up – No or Yes. Just a reminder, the Gross up option is chosen, if there is a charge or not will be regarding to the agreement between the two countries. Pressing ENTER all the details from this country are shown.

Service Code	Company	Price	Country	Gross up	IRRF	Amount Tax	Cash supplier	Tax proof	Final Amount
001	COMPANY01	100000	France	NO	0	0	100000	0	100000

Close Transaction

The details are shown on the table above. The line IRRF (Withholding Tax) is 0. It means that there is an agreement between Brazil and France and no taxation. The next lines also inform laws and articles to reinforce the information.

The screenshot shows the 'Business Platform' window with a menu bar at the top: ARQUIVO, PÁGINA INICIAL, INSERIR, LAYOUT DA PÁGINA, FÓRMULAS, DADOS, REVISÃO, EXIBIÇÃO, and DESENVOLVEDOR. The user is logged in as 'Francisco Daffos Torres (LATAM)'. On the left, there is a form with fields for Service Code, Company, Price(\$USD), Country, and Gross up, along with an 'Enter' button. Below this is a section for IRRF(Withholding Tax) with fields for Agreement, Article, Amount of Tax, Cash to supplier, Tax proof of payment, and Final Amount (\$USD), and buttons for 'Add >', '<Delete', and 'Clean'. The main area displays a table with the following data:

Service Code	Company	Price	Country	Gross up	IRRF	Amount Tax	Cash supplier	Tax proof	Final Amount
001	COMPANY01	100000	France	NO	0	0	100000	0	100000

At the bottom right, there is a 'Close Transaction' button.

After pressing ENTER the service is registered.

The screenshot shows the 'Business Platform' window with the same menu bar. The user is still logged in as 'Francisco Daffos Torres (LATAM)'. The form on the left now shows: Service Code: 001, Company: COMPANYY2, Price(\$USD): 90000, Country: Saudi Arabia, and Gross up: YES. The IRRF(Withholding Tax) section shows Agreement: 0,15. The main table now displays:

Service Code	Company	Price	Country	Gross up	IRRF	Amount Tax	Cash supplier	Tax proof	Final Amount
001	COMPANY01	100000	France	NO	0	0	100000	0	100000

The 'Close Transaction' button is still present at the bottom right.

Following the same steps to register the other countries can be registered.

Business Platform

Service Code: 001  
 Company: COMPANY2  
 Price(\$USD): 90000  
 Country: Saudi Arabia  
 Gross up: YES

Enter

IRRF(Withholding Tax): 0,15  
 Agreement:  
 Article:  
 Amount of Tax : 15882,35  
 Cash to supplier: 90000  
 Tax proof of payment: 0  
 Final Amount (\$USD): 105882,4

Add >  
 <Delete  
 Clean

Service Code	Company	Price	Country	Gross up	IRRF	Amount Tax	Cash supplier	Tax proof	Final Amount
001	COMPANY01	100000	France	NO	0	0	100000	0	100000

Close Transaction

Saudi Arabia has a charge of 0,15 IRRF.

Business Platform

Service Code:   
 Company:   
 Price(\$USD):   
 Country:   
 Gross up:

Enter

IRRF(Withholding Tax):  
 Agreement:  
 Article:  
 Amount of Tax :  
 Cash to supplier:  
 Tax proof of payment:  
 Final Amount (\$USD):

Add >  
 <Delete  
 Clean

Service Code	Company	Price	Country	Gross up	IRRF	Amount Tax	Cash supplier	Tax proof	Final Amount
001	COMPANY01	100000	France	NO	0	0	100000	0	100000
001	COMPANY2	90000	Saudi Arabia	YES	0,15	15882,35	90000	0	105882,4

Close Transaction

If there is any information that is not correct for the transaction, it can be deleted by choosing the line to be deleted and pressing <Delete>.

Service Code	Company	Price	Country	Gross up	IRRF	Amount Tax	Cash supplier	Tax proof	Final Amount
001	COMPANY01	100000	France	NO	0	0	100000	0	100000
001	COMPANY2	90000	Saudi Arabia	YES	0,15	15882,35	90000	0	105882,4

In this simulation is clear the country that have the best price choice is France, even if the cost of service at the beginning has been higher them Saudi Arabia.