University of Applied Sciences, Department of Business

Internship of

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at

Hiller & Cia. Ltda.

(Bolivia)

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Internship advisor: Prof. Kovac

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# Preface

There is a saying attributed to an ancient Chinese scholar that goes something like this:

"I hear, and I forget.
I see, and I remember.
I do, and I understand."

Most of us learn by a combination of audio, visual and kinetic activities. For my major subject, the introduction of the firms Extranet[i], instead of having myself only "see" and "hear", I tried to find a chance to also "do and understand".
It was fortunate for me.

The Winter Semester 2000/2001 I had the chance to work as an intern at HILLER & CIA. LTDA, which brought me nearly six month fascinating life while working with those highly actual topics of "Sales Force Automation (SFA) and Customer Relationship Management (CRM)[ii]".

During the first few months of the internship, there was inevitably a lot of terminology particular to computer science that I was unfamiliar with, let alone in Spanish. The Spanish courses in Germany, I took part in may not have sufficiently prepared me for all the subtleties of the Spanish language, but they were very helpful. Luckily, the staff was sensitive to this and as a result fairly patient with me.
I spoke Spanish at all times in the office.
Additionally I took Spanish classes every day after office hours.

I am very grateful to all the people working at HILLER, who supported me during my internship. Especially to my supervisor, who provided me the chance to come to HILLER and gave me a great insight into the work of the company, as well as into the cultural aspects of management during the fascinating six months.

Also my team colleagues provided me with great knowledge of database administration and helped me to learn and understand object oriented programming languages such as „Java[iii]".

My colleagues gave me such a great time at work and during all our leisure activities.

## Background Information on my Internship Choice

For my choice it was of great importance to find a company, where I could work on a project to fit my specific interests.

When I worked at DEBIS SYSTEMHAUS in 1999 to absolve my "Vorpraktikum", I had the chance to gain an insight into the depth of Business to Business (B2B) Marketing. During the lecture of "International Marketing" in the fourth semester of my studies my interests in B2B Marketing deepened.

So it was an incentive to hear that HILLER dealt predominantly with business customers.

I learned from my supervisor in advance that I would have the possibility to enhance and unite management and business administrative capabilities on the one hand, and my skills in internet-programming and the understanding of computer environments on the other hand, when he introduced me to my project. I was told that I could develop together with experienced programmers an enterprise software solution and provide them with my knowledge of business administration under the supervision of an entrepreneur, who had all the specific knowledge needed for this country. Being the CEO[iv] of a medium sized affiliated group.

It was always important to me not only to gain the knowledge of "International Management", but also to learn about Information Technology. I try to combine those two subjects by gathering practical experience in the IT-sector during my internships and my regular jobs. After accomplishing my studies I preferably would like to work in the new economy.

Apart from the project which fascinated me from the very first moment on, I saw the chance to learn Spanish, which I consider an important language, and which significantly enlarges geographically my possible field of employment.
Speaking English, Spanish and German enables me for example to understand more than 80% of the World Wide Web's content.
I consider it as more important than to perfect my English.

Last but not least it challenged me to learn how it is like to work in a lesser developed country, especially the cultural aspects within the company, to learn about the structure of a Bolivian conglomerate which belongs to the bigger ones in national comparison, with regard to size and revenue.

## Description of the company

Since the project, I was working on is a software solution for the whole group I will describe not only the company I was contracted to, but the whole conglomerate to give the reader a better insight into the field of application and also the conditions of my work.

The group consists of :

HONNEN LTDA
situated in Santa Cruz, with subsidiaries in Cochabamba and La Paz
Field of business: Import and sales of chemicals and construction materials
Representation for various manufacturers
Number of employees: 20

HILLER & CIA LTDA
situated in Santa Cruz, with subsidiaries in Cochabamba and La Paz
Field of business: General representation of STIHL products, mainly chainsaws
Number of employees: 23

## HILLER ELECTRIC SA

situated in Santa Cruz, with a sales subsidiary in La Paz

Field of business: Import of electronic material for business use, mainly swichboxes (Schaltgeräte), development of Software for automatization technique, manufacturing of switchboxes (Schaltschrankbau), wirings (Schaltungen)

Main representation of KlöcknerMöller

Number of employees: 6

## INDUSTRIAS QUIMICAS LINOX SRL

situated outside of Santa Cruz

Production of Chemicals used for construction

Number of employees: 5

## PLAMAT SA

situated outside of Santa Cruz

Production of pipes (pessurized water and sewage pipes), fittings, industry-packaging (mainly poly-ethylene buckets)

Number of employees: ca. 80

## TRANSORIENTE LTDA

international transport company

Number of employees: 5

The group revenue totaled about 10M US$.

All the companies listed above use INFORMIX Databases and integrated administration software.

Accounting, customer numbers and article numbers are liked between all the companies to reach the fully consolidation of the data.

The company I was assigned to had a very up to date computer department, with the newest equipment regarding software as well as hardware. We were, in many cases the first Latin Americans to introduce a software. But also in comparison to Europe and the USA we were using advanced technology.

IT-projects:

1. Introduction of TARANTELA

   This will enable the employees in the subsidiaries, via Internet and browser, to access the relational DBMS[v] situated in the headquarter. The existing applications shall be integrated in this new system.

2. Development of a data-warehouse[vi]

   for a better consolidation of the companies data (internal and external)

3. Development of a CMR-Software

   based on a web-database in which data can be entered and information can be captured by employees in the subsidiaries as well as by the field sales representatives via Internet.

4. Development of the first real estate web-portal in Bolivia. The hardware and software, as well as the workforce already exist within the company. Business partners already have been informed and showed great interest. First steps are taken to develop such a website, based upon the knowhow we gathered during our CRM-project.

   There exists already a demand, worth approximately US$ 30 million.

## Description of the area where I was assigned

The third above mentioned project was my main area of assignment.

I worked with three programmers, one of them was the project manager, in a team. We had to report our progresses, ideas and solutions directly to the CEO with whom I as well discussed the functions, the software had to fulfill.

We started the project on my first day in the company. The other team members went to a schooling for Internet programming before I arrived. They were just ready to start.

As my work should facilitate the chief duties of our company, it also affected all the other departments – accountancy, import, export, sales and acquisition - just to mention a few. This meant that I had to work really close together with those colleagues as well. I had the chance to learn the basics of their work, to understand the workflow of the company as a whole.

**Description of my project / responsibilities**

The assignment was to establish an extranet.
When I arrived, I already found an advanced communication infrastructure which connected the headquarter to the branch offices as well as plants and a decentralized backup device over a fiber optic cable. This had to be enhanced and partly replaced by our new system.
The automatization of working processes was made possible due to our work, which I will elaborate on later. But furthermore clients, suppliers and distributors were involved in this automatization process. So we created a simplification of the global communication of the whole group, which meant also an immense reduction of communication costs.

Moreover I can speak of a Customer Relationship Management (CRM) solution because of the new possibility to store all the data passed through this system in a data warehouse, especially the data concerning customers.

Customer Relationship Management integrates people, systems, and technology to maximize customer relationship.
CRM can be divided into customer management, customer interaction, and customer optimization.
Knowing not only how much revenue each customer generates, but also how much your company spends to service each customer across all channels.
Therefore the ability to extract data from a variety of enterprise systems and store that information in a relational database format is crucial.

Sales force records are integrated with customer transaction history, specific records of all marketing contracts, and any customer service interaction. Current and historical customer information is combined with product information and financial records.

The data generated by the customer is fed into marketing, sales, and customer service applications to better sell, serve and retain. The relative success or failure of these efforts can now be measured and modified in real time.

I was very lucky, that I could join in at the very beginning of the project. The other team-members were trained, yet and started with the installation of the database just when I arrived.

Introductory phase
In the beginning all team members had different assignments. I began with looking for already existing software for SFA as well as CMR, to see what components and ingredients were functional for our project.
I conducted a little market research, to test and understand competing CRM-solutions:

I gathered information, spoke to the sales departments of various CRM-venders and asked for test-versions of their software. With my superior I observed the collected information and we discussed which components could be useful for our purposes. Regular meetings with the computer-department took place, to collect ideas and to find out how to realize them technically.

I also dedicated a lot of my time to the calculation of the costs and benefits of such a solution (profitability accounting). This is rather difficult to calculate because you have more unknown factors as known ones. I consulted various literature covering this subject to get a roughly idea what size this project will become.

While learning and improving my knowledge of the programming-languages of our choice, namely: Java[vii], Javascript[viii], SQL[ix], HTML[x] and a script language to manipulate Databases from the web browser (ABB-PAGE), I began my work, by supporting the other programmers in their first steps.

After I gained a general understanding  of those languages and got acquainted to work with an Informix Database environment, I had the chance to start an own project within our CMR-solution.

<u>Facilitation of the offer process</u>

My duty was to create a program, which dynamically generate offers for our clients. The user just has to  select a few parameters and the program creates the offer, ready to send as facsimile, email or letter.

This has the advantage that all obligatory parts of an offer, for instance the validity, are always included and cannot be forgotten.

All the offers are collected in the database and can be searched and reviewed upon various criterias.

In the future the field sales force will use this program to generate offers during their sales visits with the customer using a laptop PC and a portable printer.

This will be only the first step of a chain of rationalizations concerning the Sales Force.

The magic word is: Sales Force Automatization (SFA).

Most SFA applications focus on lead distribution and tracking, pipeline management, contacts centralization and management, and group collaboration.

Again, the Internet has changed the way traditional sales processes work. During my research I found out that there are already some applications in B to B sales that are attempting to remove the salesperson from the sales process through an automated interface. The relative success or failure of these sites will depend on the buyer's willingness to make large scale purchases without the handshake and the physical contact that has always been an integral part of the sales process since commerce was first created.

## Automatization of orders

This project occupied much of my time, but as I finished I was able to begin and finish an even much more complex work.

In some programming languages like HTML and Java, I had more experience, so my colleagues, sometimes consulted me to solve a problem.

Obviously  this was a mutual exchange of ideas and knowledge.

The next project was build upon the first and therefore much easier to realize.

 As Hiller & Cia. is an import company the conduction of orders from suppliers is an important part of the staffs work.

Generally it can be distinguished between orders on own account and orders on alien account, on the bases of commission. There are internal orders, within the affiliated group and orders by one company of the group, on the account of another subsidiary.

All this I had to keep in mind, when finding a dynamical solution covering all those cases.

This second extensive programming project should resolve a problem which existed for 25 years within the company.

In the past orders had to be conducted manually. Many persons in various branch offices were involved. The coordination was rather difficult and communication within those people was very costly.

Existing and ancient orders could not be viewed or analyzed easily.

Now communication has been facilitated. The data is accessible for everyone with the permission to see or alter it. And the typing work has been reduced to a minimum.

## Order handling system

At this point I decided to stay even one month more in the company to start a project of a lager scale and significance.

It was the largest application within our Extranet so far. I had the chance as well as the responsibility to create it independently.

As I elaborated earlier, Hiller & Cia. is the general representation of "STIHL" products in Bolivia. They are delivering chainsaws and other motorized products as well as parts to outlets throughout the country.

A mechanic's shed for those products belongs to the company.

For this reason there are thousands of items to be imported regularly in a high amount. This quantity makes it impossible to overlook orders, stock and sales manually.

We contrived a mathematic formula to calculate the amount to order depending on various variable factors. Since the inventory and the sales are updated in the database in real time, we had the numbers at our disposal.

Additionally the program calculates costs and weight of an order to determine whether to consider an air or maritime cargo.

For legal and fiscal reasons, not only one company of the conglomerate orders those products, so I had to consider their inventory as well as their actual orders.

This made the application even more complex.

The program can not only be used to conduct orders but also to inform oneself about specific materials or material groups.

The incoming requests can be overlooked and are automatically considered in new orders.

Suggestions are now made directly by sales persons and mechanics, working with the new system. The import department revises and collects those suggestions to form new orders.

They have to differentiate between various suppliers situated in the whole world as well as the kind of transportation. The system helps them in this decision making process.

All this works electronically and over distances in real time with a minimum of communication costs.

This software is a revolutionary change in the work of various departments. It affects the core business of the conglomerate.

Desktop Publishing

Another part of my work, when realizing those "sub-projects" was Desktop Publishing: Since much content in the correspondence for example with suppliers, always remains the same, or at least follows similar patterns, one functionality, the software should contain, was the dynamic creation of standardized forms, with the help of the content stored in a database. This was of use for emails as well as facsimiles and regular letters. My responsibility was not only to solve the problem electronically with my colleagues, but also to enhance the appearance of those forms. I had to learn a lot about typography, layout and user friendliness, where also psychological aspects played a big role.

The postponement of my return to Germany gave also the chance to introduce our software to some colleagues and to monitor the user reaction towards the new applications.
The last three weeks I had the chance to test my programs in the real work environment. Previously I could only check them using experimental values. During this time I enhanced those applications a lot.

I experienced the dislike of the changes I carried through in the working processes, but this did not last very long. The users noticed very quickly the improvement and simplification of their work, though some of them had to learn the very basics of using a computer.
The  advantage of our extranet is that everyone who can navigate the internet also won't have any problems using our applications. It is the same architecture. Therefore it wasn't too hard to convince them of our "product".

I also planed to visit the branch offices in two other major cities to train the personnel in the use of the new applications. I would have gone there alone, so I could have worked independently, but regrettably once again I ran out of time, so that I could not conduct this promising business travel.

# Assessment of level of skills acquired

I had the chance to gain an insight into various areas of Hiller & Cia.
Every department, every assignment required new skills.
Especially my computer-skills accumulated. Terminating one project enabled me to start another. I learned new things every day in the office.

## Technical skills

As I worked in the computer department, I needed to get more acquainted with high-level computer knowledge.

- SQL
- RDMS (Informix Internet Foundation 2000)
- Java
- understanding of local as well as wide area networks
- Informix databases
- Internet programming using dynamic HTML (Informix app-page) Java script and applets

## Personal skills

Since the team was small, we needed to rely on each person. Each person had some responsibilities. I appreciated to be involved in all projects, the other team members were in confidence with me and it was great to feel to be a team.
But I also learned how to achieve one's aim, how to insist.
For example I negotiated successfully to get a raise.

## Team work skills

This is the essential skill to work in IT. Nobody can handle everything. Hence you have to work with other people who might be more qualified than you to deal with specified subjects. It was essential to adapt myself to work in team, to show that I can be reliable (being just an intern).
It is important to show openness to everything, as well as a strong personality and the capability of handling responsibilities.

I think this time abroad really had a great impact to my live. I acquired a bit of the feeling of how to deal with customers and business partners, when I had the chance to attend a meeting or at least when I observed the activities of the management. I took part in the search for new strategic partners in the field of Internet security.

But this experience was much more than learning all the above mentioned, it had also a great influence to my personality.

## Working environment

The atmosphere in the company was really informal. I didn't have to dress very formally, and everyone was called by his given name.
The hierarchy was short. I looked at everyone as a colleague rather than a superior. In my team I was an equal member, orders came only from the companies' head.

I noticed that there was a strong cohesion between the employees. They met after work and spent quite a lot of time together. It was a really good working climate.

I learned that it was, especially in the computer department, hard to find qualified personnel and we had to employ a specialist for every task.
For example to install a special business software properly we needed nearly a full year, because the person responsible was an autodidact, who began in the company as a delivery boy.
Outsourcing was not possible, because the services we needed were not available.

# Correlation with studies

The correlation with my studies I saw especially with my courses of "Wirtschaftsinformatik", in which I gained a basic understanding of computer programming, the functionality of RDBMS[xi] and furthermore I got an insight into what is called Standard Software for Businesses at the example of SAP.

These 4 semesters of computer and information science were the basic requirements to work in this field.

I deepened my knowledge of Database handling and programming. This in connection with what I learned in the field of internet programming is of major importance. All internet applications are built in a similar way. This is what determines the future of all business in the future: the storage and analysis of data in the "backend" and the complex web-sites in the "front-end" .

But since my job was not only to help to develop such a software (of course much smaller than SAP), but also to "fill" this application with content, to maintain focus, which content is relevant or could enhance the profitability of the company, I also was able to submit the know-how of other courses, I gained during the four semesters I spend at the "University of Applied Science".

The general understanding of economical as well as administrational substance was of great importance to understand the project as a whole.

The international aspects of marketing and sales were a good preparation especially in the field of cultural differences. With this background I had the chance to understand and learn much more as I would have been able without having participated those courses. I learned beforehand in which areas differences would possibly appear. Also the "KUSO"-classes where really helpful to better understand and assimilate this new cultural environment.

I had to work closely together with the import department for which I created software to help them in their daily business. The making of such solutions required me to

understand the context of their work. My courses in "Außenhandel" prepared me a lot in this field.

Furthermore I had the chance to learn much more details for instance about shipping terms or financing of imports. This was one of the most interesting side-issue of my internship and I was fortunate already knowing the basics of this work.

Case studies in "Internationales Privatrecht" also gave me an insight into the international aspects of this field.

I was surprised how useful the math classes have been especially in my programming work, where logical thinking is a matter of great importance.

# A typical workday

8:00

Start of workday: switch on servers, run database.

8:15

Begin programming work, revise existing code, notes from the last day;

8:30

continue working with those codes

8:45

discussion with other team members, what to do next, how could we enhance our programs.

9:00

continuing discussing; revision of the work of the other programmers.

9:15

The boss is calling, he has new ideas I have to include within my work.

We talk trough his and my ideas, calling other team members to hear their opinion how to realize those thoughts.

During this discussions with always many people involved, I always gain much information concerning the company.

10:00

thinking

10:15

writing notes, researching

10:30

consider possibilities

10:45

beginning of a new project or a new part of an existing project

11:00

coffee break

11:15

copying existing passages of source code to create new solutions

11:30

erasing half of the already written for a new upcoming idea

11:45

editing

12:00

Lunchtime, sleeping the "siesta"

14:30

back to work, continuing the work

14:45

raise questions, answer questions of other team members

15:00

another coffee break

15:15

programming

16:00

discuss results of programming work with people who will work with those programs in the future

16:15

introducing them to our extranet solutions, take their fears and discuss their concerns

16:30

trying to realize ideas from those colleges

16:45

still thinking and programming

17:00

waiting for inspiration

17:15

updating the database

17:30

searching the internet, particularly CRM and programming newsgroups for news and updates, studying computer and network magazines

18:00

programming, asking for information concerning the work of the company to make the programs better fit the needs

18:30

tired of an exhausting day and from working with two computers, I leave the office.

## Suitability for future internships

As the company always takes students from Germany as interns, predominantly for longer periods, the possibility for future students to do their internship in Hiller & Cia. is given.

As I described earlier the organization consists of various companies with very different fields of activities. Therefore there are many distinctive areas of assignment for future internships.

The demands are high, but a well motivated and interested student could learn a lot and he or she could have a really great experience and a fabulous time here in Santa Cruz.

Furthermore interns enjoy the luxury of receiving a salary and living in a company owned apartment.

Because my work was often related to the work of the import department, I gained an insight as well into this section. I can say especially the close linkage to

German wholesalers and suppliers may be interesting, because I was frequently reminded to my legal courses. German and international export laws apply. Who is interested in the work of forwarding, import and export agents or in conveyance in general would find a huge opportunity to enhance his or her knowledge.

I didn't see much of the manufacturing sector, but I assume it may also be a possibility to conduct your internship here in this field .

As future interns may fear the language barrier, I should add that for a fluent English speaker it is quite easy to acquire decent Spanish skills. With only half a year studying Spanish before heading to Bolivia, I now half a year later I can - not without proud – say that I can communicate quite fluent in Spanish.
In the first few months I found English and German speakers within my working environment, helping me to bridge the language difficulties.

To apply for an internship a future intern would have to contact the German – Bolivian Chamber of Commerce in La Paz:

Av. Ecuador 2277 (Sopocachi),
Casilla 2722,
La Paz - Bolivia

Fax: 005912 - 413321
Tel: 411774
email: info@ahkbol.com

## Conclusion / consequences for further studies

The first two month, I suffered someeefrewhat from my language skills, even with a decent mastery of the language. Expressing ideas and trying to communicate even the most basic things was a struggle that could result in feelings of alienation and discomfort at the worst of times.

This was an incentive to study Spanish extremely hard, so that I acquired a more solid mastery of the language very rapidly .

In regard, what I have learned over there, during this fascinating six month, the language problems of the first few moths were just a matter of dwindling minor importance.

I am sure, this experience will be a great asset to my life.

This Internship provided me with knowledge to profit from for future work in exactly my field of interest, and perhaps even to accomplish my diploma in this field.

I am just 23 years old. I still have to learn a lot before, let's dream opening my own business. So, that's why I will come back there because this is the kind of place where you can achieve all your dreams...

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# Glossary

[i] extranet: internal communications network within an organization that also connects to agents outside of the organization (suppliers,  clients, field sales force, ..) through the use of internet protocols

[ii] see: „The Description of my Project" for detailed information

[iii] Java: System independent programming language for network-based applications.

[iv] Chief Executive Officer

[v] Relational Database Management System: integrated system to administer relational Databases uniformly. All Information is saved within tables.

[vi] Data Warehouse: an independent database where data from the operative systems can be collected and adapted task and function oriented, but also company wide. The user profits from it, getting analysis in various forms to assist him in the decision process.

[vii] System independent programming language for network-based applications.

[viii] basic programming language used for linkage in World Wide Web pages and which is based on simplification of the Java programming language.

[ix] Structured Query Language: language used in databases for defining searches and altering the content.

[x] HyperText Markup Language: language used to write pages and sites for the internet.

[xi] Relational Database Management System: integrated system to administer relational Databases uniformly. All Information is saved within tables.