CHAPTER 7

CULTURAL FACTORS THAT AFFECTED THE TECHNOLOGY TRANSFER

A clear picture of Tlaxcala's social, cultural, demographical and economical characteristics has been presented. It is now necessary to relate all these facts with the issue that this research project is dealing with.

An analysis will be made about the cultural factors and once each of these factors is stated and justified, a proposal will be made to try and incorporate it into the technology transfer process for a smooth transition.

7.1 Cultural Factors

7.1.1 Are You Local or Foreigner?

As it has been presented already, the population of Tlaxcala is deeply concerned about keeping as intact as possible their cultural heritage, which includes their traditions, their social structure and their relaxed way of life. After analyzing the behavior of the workers at the site where the investigation took place it can be concluded that it is basically a matter of the reaction of this people towards directions given to them by someone who is not from the region; they still distrust foreigners and one can feel a slight resentment in their answers and actions. This is a generalized feeling among them. As a very peculiar fact, it is worth mentioning that one of the first things that they ask newcomers is "are you from Tlaxcala?" in order to establish from the very beginning a different treatment for a local than that for a foreigner. Given this difference in the way they treat people, it is easy

to figure out that everything that comes from anybody who is not a part of their rather closed local sphere will not be easily assimilated or accepted, although it is clear that given that tis is all talking about work subordination they will ultimately have no other choice than doing it, but the way they will behave can affect the results and hence yield something not as good as it could be.

Considering that only 20% of the managers in this A&B site are from the Tlaxcala region, one can also find this problem between managers and supervisors, most of whom are locals. This creates a deeper problem that promotes frictions among both parts, which in turn becomes problematic at this level of the organization, affecting its performance. A sort of chain reaction may be observed in these cases, in which the operators take the side of their local supervisor and make it even more difficult to the manager to accomplish his or her objectives in the area through IWS methodologies.

Adding up the fact that the company itself is from American origin, one can easily sense what the reactions of the local operators are towards the guidelines and standards of the company. If they don't trust somebody from Puebla, a city less that is less than 20 miles away, how could they even think about trusting a company whose headquarters are in someplace they can't even point out in a map?

Some things may be easier to implement than others, of course, but particularly those that come directly from the Corporate Offices are very difficult to carry on, considering that they are issues that they don't even know where they are coming from.

For instance, knowing about the urgent need to work on AM from the very beginning of a technology transfer project it is very difficult to make them understand that it is not an optional task, it is a must because the company says so. No matter what kinds of reasons are given for the worthiness of the task, they just don't seem to assimilate it

because it is a foreign idea. The managers do understand it and will try to get their supervisors to accept it, but then it will be the latter's job to make the operators on the shop floor to carry it out. If we start with communication and acceptance problems start at the supervisors level, what can one really expected their areas to accomplish?

This particular trait of the Tlaxcala region people that is based upon very ancient paradigms that have been previously described is a major obstacle that stands in the way of standards implementation in this site. It is so difficult to get things done as a foreigner in this factory that a lot of effort that could very well be used for other activities, is lost in trying to get the workers understand that there is a valid reason for doing what they are asked to and that they will later on see results that will positively improve their work-day.

One could easily think that if this is a matter of not trusting foreigners, this site should only focus in hiring locals, but the fact is that A&B believes in diversity and the mobility of its people is a requirement to get the organization as a whole to grow. All of its shop floor workers are locals; some may not be Tlaxcala-born but have lived there for several years. On the supervisors and managers level, unfortunately Tlaxcala can't offer a wide range of options where to hire from. It currently doesn't have a renowned university, the kind of which A&B likes to hire its supervisors and managers from; therefore, it has a need to "import" people for these roles from the nearby city of Puebla or from Mexico City. Obviously this double policy is not appreciated by the local workers who deeply resent this and they have no problem exteriorizing these feelings in public.

Mixing local operators with foreign supervisors and/or managers in this site promotes a terrible state of rebellion in which things are done but not in the best mood of all. Discussions are frequent but rarely won by locals. Each "battle" lost is another mark

carved in stone that won't be forgotten, but rather kept for a later occasion in which it may come in handy to use. As scary as this may sound, it is absolutely true.

7.1.2 A Language Matter

Tlaxcala has an average literacy rate. Even though A&B only hires operators with at least a technical degree, there is still a considerable percentage of people that was acquired along with the former company five years ago. The profile of the employee that was hired before the acquisition differs considerably from the present one. Back then, mostly people with working experience would be hired, no minimum educational level was required, this meant that the overall literacy rate in the site would easily represent that of the state's which is 92.4% according to the 2000 general population census performed by INEGI. Nowadays it is different; at least it is a clear expectation that all the new hired operators know how to read and write, they know basic computer skills and even very basic English. When all the site's operators comply with this profile, things may be so much easier as far as standards implementation goes. Today according to the Human Resources department the literacy rate of the site is 99% and will be moving towards 100% in the next few months.

As of right now, things get even more complicated when one considers that an American-born company likes to do business mostly in its mother-tongue, English. This creates an interesting confrontation of languages at the shop floor level. For once, the technology used is not Mexican, all of it is imported from different parts of the world, however, most of the instruction manuals are in English, although nowadays, a copy in Spanish is mandatory for every new machine or piece of equipment that arrives to the plant.

What really complicates things for everybody is the wide use of acronyms that characterizes such a big company. IWS, PLT, HS&E, FI, MOE, HR, MCC, SWG, etc. (a list of the acronyms used in this research project may be found in Appendix A), this is how A&B likes to communicate among and within its sites. All these acronyms are in English, many operators just try and wonder what they mean; some have been translated to a Spanish equivalent, but it makes things more difficult to share particularly for supervisors who have to use Spanish acronyms with the operators and English ones with their managers, even though many supervisors don't speak English. Sometimes serious confusions arise, such as one that concerned the safety standards for the MCCs (Motor Control Centers) whose Spanish acronym is CCM (Cuarto de Control de Motores), which has a different meaning at a global level.

As if this wasn't enough, all the guidelines, trainings and standards are obviously issued in English, this makes it very difficult to simply publish them either on the Intranet website or in the information boards scattered around the facilities. It requires translations, most of which have to be done by whoever is available, seriously increasing the workloads of those who speak English. When someone from the US headquarters comes to the site to give a training session for the operators, a translator has to be hired, which considerably increases the time that the actual session can take. As good as the translator may be, there are always some issues that are mistranslated or that just can't be translated at all, losing important points that may really have been vital for the presentation as a whole.

This again, increases the difficulty level to ground global requirements at this site. The most common demand from them is to get English lessons, but the company has determined that the effort that is needed into doing it is not actually paid off by the benefits that could be obtained. At the A&Ts level, one located in between the floor operators and

the managers, there is a possibility to authorize the attendance to English courses, but it has been proven that the level of improvement is rather small due mainly to a lack of commitment from their part.

On the opposite, all managers are required to communicate fluently in English and Spanish, and this is an ability that is required at the hiring stage, along which many interviews may be carried out in English, which serves as a practical filter for those that can't master the language. Inter-departmental information between managers is usually in English and many meetings are carried on in this language as well, and if someone in it doesn't understand the language, too bad for the one sitting next to him or her that will have to translate everything to the other person.

Finally, but rather valuable for this research project is the fact that most of the technology suppliers communicate in English both orally and in writing. This has a particular importance considering that when a new project is to be developed, there are many times in which a close interaction with the operators is required and sometimes there is nobody available to translate back and forth between Spanish and English, which means that many important technical points may end up unrealized or not taken proper care of. It is very true that nobody knows a manufacturing process better than those who work with it every day on the shop floor, and this means that the operators are the ones that are the real experts, the ones that really know the secret tricks of a certain machine, the ones that could really improve a process if they could only communicate perfectly with the supplier. Since this doesn't happen always, there is no way to ensure that a technology transfer will be absolutely inclusive as far as little details that may considerably avoid problems afterwards.

As long as there still exists this gap related to the language, a lot of problems will still slow down a technology transfer project, which would be the main reason why the

profile of a newly hired operator has been modified in order to reduce this gap. There is still more work to be done involving the language barrier that exists in the site. For once, now all the AM requirements specify that all visual controls must be available in Spanish, and for safety reasons, everything relating to it must be displayed in Spanish, including the name tags inside the MCCs to easily identify the equipments when performing a lock-out/tag-out procedure.

7.1.3 Holidays

Holidays are of particular importance to Tlaxcala's people. We are not talking about the Christmas holidays only, though, Easter holidays and the local fair are dates that are also highly praised along with Labor Day. The reluctance to work these days is quite overwhelming and trying to get anyone to work overtime those days is nearly impossible, in spite of the double or triple-pay bonuses that are offered. Of peculiar interest is what happens during the local carnivals and fairs of the surrounding towns from which the operators come from (most of them within a 10 mile radius from the site). The town fair is the event that is looked forward during the whole year. It is a tradition that is still very carved into their culture, which is great, considering how fast some of these traditions are being lost. During these carnivals, they dance and throw huge parties to which everyone is invited, there are lots of food and liquor to fest with. The fair usually lasts two or three days, which are commonly chosen as vacation days by the operators. The problem is that sometimes 2, 3 or 4 operators of the same line live in the same town and all of them want to leave on vacation during the same days which really poses a big trouble for the area supervisor who controls the vacation days. Many times it is impossible to cover the vacant

places and therefore he or she is forced to deny the vacation days to one or two people, which immediately create friction. One may get somebody to work on Christmas far easier than getting them working during their town fair.

Another difficult day to get the operators to work is December 12, which is Virgin of Guadalupe's day. Given the importance of this festivity across the nation, this date is usually a down-day, in which instead of production there are maintenance activities to be carried on. The problem is to get the mechanics and electricians to come and work this day, and when they finally agree to it, you can hear all over comments regarding how Heaven will certainly punish the plant for making them work on this sacred day.

As if the plant wasn't really aware of this, whenever there are major engineering projects to be started or completed, they choose holidays to do it, in order not to harm the production schedule to which it committed at the beginning of its fiscal year (July). So what can be expected when you have dozens of angry operators handling sensitive materials and pieces of equipment for a new project? The risk is too high and if something went wrong, the consequences and final cost would perhaps be higher than sacrificing one production day for the occasion. A recommendation is issued not to do this on an ongoing basis to avoid attitude problems from the operators' side. Additionally, the respect to the local traditions is the basis for a healthy relationship with the community from which most of the operators come from.

However, the plant management has not seen these which are special occasions for the operators, as a great opportunity to establish deeper and more personal ties among each other. The interaction between operators, supervisors and managers should not be only restricted to work related issues. Far better results would be obtained if the plant management recognizes these festivities more as a time that it is worth investing in building

stronger, closer and more productive relationships with its employees rather than just an opportunity to get some more work done, some work that it finds difficult to accomplish during normal production days. Furthermore, when the shop floor operators see that their time and their traditions are not only respected but shared by their superiors, they will automatically respect much more what they have to say, think or do, because they will want a reciprocal relationship that is based in trust and respect going both ways.

It might take a couple of down days to be sacrificed but as long as this time is seen as an investment instead of a waste for not accomplishing this or that on December 12 or May 1, the plant management will be able to reach the company's goals faster and better. There is always a price to pay, but this is definitely worth it, everybody will work in a more comfortable environment and the productivity boost can be overwhelming.

7.1.4 The Paycheck

Of particular interest also is the inferiority complex perceived in general among the operators of this site. To put it simple, they deeply resent that their supervisors and managers get paid much more than they do when it appears to them that they don't do nearly as much. This issue is a matter of discussions when it comes to overtime. Their most common comment is 'if I got paid the same amount you do, I wouldn't mind staying here that many hours, but since I don't, I'd better go". They can't accept the fact that supervisors and managers are paid for responsibilities not for time at the workplace, as they do.

Since engineering projects usually demand a great deal of overtime, it is so exhausting to get them to come and work outside their predefined work schedule. The risk

associated with angry people working with delicate stuff is again, very high. Sometimes, it is not even a matter of really working overtime, but attending training sessions that otherwise it is impossible to fit into the yearly schedule, and the level of retention that these same angry guys have is quite reduced. This chronic refusal to work overtime can severely affect the rate at which a technology transfer project is developed, not to mention, how well it can be developed if they are not willing to consider the requirement for overtime work as a valuable investment for an easier workday afterwards.

In many other places, overtime is attractive as a means of getting more money, but here, it seems that no money can actually pay off for a break time. So at the same time there is people complaining about how poorly paid they are and yet not willing to get some more by coming to work overtime some days.

It is also worth mentioning that given the profile that was mentioned about the newly hired supervisors and managers, which come from private universities and from a different socio-economical level than operators do, it is difficult to build strong boss-subordinate relationships and to develop a trustful environment among them. It takes time to do it and experience in this particular site has proven so, but the first months or even the first whole year may be deeply characterized by a resentment feeling from the operators' side. They would obviously like to see one of their own get to a managerial position, which, given the profile of the company, is rather difficult yet not impossible. Career plans are not seriously developed for all levels within the organization. The differences between a short to medium term visions for a technician, an A&T or a manager are rather contrasting. For the technicians it is rarely even mentioned, because most of these positions are considered as expendable. Their promotions are based mainly upon time in the position and results, rather than being based on a plan to take them from point A to point B in a

certain period of time. For an A&T there is a career plan developed but it will mainly stay within the A&T's roles and responsibilities, rarely ever is an A&T promoted to a managerial level, mainly as a result of the profile that is required by the company. On the opposite, when a new manager is hired, a detailed and thorough career plan is developed and specific goals and deadlines are set to be accomplished. The frequency with which a manager jumps from one level to another is far greater than that of an A&T, who, for instance, may only change roles instead of ascending. If no equal opportunities are given to all the members of the organization, it is evident that the development of personal potentials is not going to be the most optimal one. It usually happens that a certain technician shows a big commitment and achieves challenging goals, but the organization doesn't pay the sufficient attention to recognize that he or she might be a valuable piece for the organization and that maybe developing a career plan establishing even more challenging goals is the only thing it will take to boost that employee's potential.

A very peculiar fact is that very often can you hear them complain about how clean and proper the area manager's clothing is, how they don't like to mingle in the cafeteria, or simply how they like to spend their money. One can see here a tremendous contrast with Japanese working culture in which even the plant manager is wearing an overall on a daily basis and thus leaving no place for such a comparison for the shop floor workers. He wants to look the same as his fellows to reduce the power distance. It is true that in all the manufacturing facilities of this company the dress code is very casual, mostly jeans and polo shirt but still, a big difference is established by wearing designer clothing or market bought t-shirts and pants. Most of the technicians usually wear their uniforms to work and even though most of the managers have the same shirts or jeans as they do, they rarely use them. By looking different, they set the basis for being treated differently and that easily

brings down any improvement in the interpersonal relations building effort. As can be seen here, human relations is definitely a subject that no engineering college course deals with, which then lets the attempt to a mere trial and error experience. Some people get it faster than others, and there are yet some that never do.

7.1.5 Superiority

One aspect of Tlaxcala's culture is the desire to always be the best. This has proven particularly useful in accomplishing several business goals in this site. For instance, there are always awards of some sort to those SWGs that are the first ones to do this or the first ones to do that. It is a fact that people tend to always remember who was the best and worst, but rarely those places in the middle. This is why by waking up the individual desire to be part of the best team, a sudden sense of collaboration and improvement appears on the operators. Establishing IWS goals in this way has proven more than effective. Who doesn't like to brag about being the first, the best, the faster, etc.? Well, the Tlaxcalans certainly do. There is some kind of harmless rivalry between the four main working teams: A, B, C and D. This rivalry boosts the productivity of the teams members and the area can see better results in a shorter time. The awards are usually diplomas or just a special meal, but the teams rarely ever do it for the prize, they do it for the pride. The company has certainly found this particular trait to be extremely useful and it recurs to it very often, may it be for HS&E, FI, AM or PM issues.

7.1.6 Frankness

If something is really worth mentioning about Tlaxcala's people is that they are very frank. Whenever they have issues about this or that, they openly state it. They rarely conceal their feelings about something they don't like, don't trust or don't believe in. At the workplace, although it may seem that it can be a matter of additional stress for the work relations, it is actually the opposite. This frankness encourages a broad and easily accessible communication channel through which several differences are smoothened out. A supervisor or a manager doesn't have to worry about how his or her people is feeling since he or she will be able to sense it in the air and hear it first hand from the area operators themselves. No hidden feelings or emotions mean no hidden problems and once they are all put in the table, the only thing left to do is work upon a solution that satisfies both parts.

So, whenever they don't like what they are being told to do, they will perhaps do it, but they will use the first chance they have to mention it to their superiors, expecting them to do something about it, most of the times providing possible solutions on how they would like a particular issue to be addressed. As long as the management knows how to handle this and if it can keep encouraging this frankness to prevail in the workplace, there will rarely be serious troubles that appear unexpectedly. The workers frankness allows the company to take early actions that can help minimize the impact of a bigger problem at sight, being a major contributor to make possible a reliable business continuity at all times.

7.1.7 Obedience

As badly as history has treated Tlaxcala, its people still remain to be an obedient group. They might complain about it but they respect hierarchies and this helps getting many things done at the workplace. They recognize that the boss is the boss for some reason or another and, as much as they can argue with that, they will ultimately follow the instructions they receive. Obviously the mood with which they can do things can vary considerably and it can affect their performance but this is precisely when the boss has to be smart and use his or her situational leadership to have them accomplish a task or achieve a critical business goal. The situational leadership concept is based upon studies from the 1950s decade that focus on how human motivation can impact work outputs (Covey, 1997). This concept relies on the fact that people tend to react differently under different stimuli from the environment. Situational leadership recognizes four main types of leaders: those who participate actively, those who like to delegate, those who sell their ideas and the most traditional directors. Under different circumstances one out of the four mentioned leadership styles can be adopted, it depends on how versatile the leader is.

Anyway, if the company can resourcefully advantage from the operators obedience, it will be able to move on at the rate it wants to. The dignity of the employees is more than protected, being the person the most valuable asset of the company, according to the PVP we have already presented and discussed.

7.2 Other Factors

7.2.1 Socialization

Tlaxcala's people are not prone to loneliness. They like human interaction and they feel good working in numerous teams, since their sense of responsibility gets somehow diluted. This makes it easy to make changes from one team to another if it is needed under business requirements. They can easily adapt to a different group in a rather short time and this helps to reduce the productivity gap that occurs when a work team sees one of its members changed. Obviously, whenever this occurs, a PBMD process has to be carried on by the area leader in order to minimize the impact such a change would have in either team.

A very useful approach and that according to some managers has proven to be rather effective is to ask the target employee how would he or she feel if he was changed to another team, this lets the employee know that he or she is valued and that whatever he or she has to say can actually have an impact in the decision to be taken. The area leader should mention the reasons why a change would be beneficial to both the person and the area. This will certainly help to smooth out the transition process and will allow to get back on track in less time than expected.

7.2.2 Labor Cost

Definitely one of the most attractive aspects of investment in the Tlaxcala area is that labor cost is not nearly as high as it is in Mexico City or nearby Puebla. Tlaxcala's standard of wages is about 8% lower than that of Puebla according to figures of the Work and Social

Prevention Bureau (STyPS). For this multi-national company it has been rather easy to establish itself as a good employer in terms of salaries compared to most of the other companies in the area except for maybe two more that have higher salaries due to higher risks, mainly chemical industries. Among the rest of the manufacturing sites that the company has in Mexico, this one has the lowest average salaries for the operators, while it still positions itself as one of the best working options in the region. No figures can be given about this.

7.2.3 Geographical Location

Apizaco, Tlaxcala is located quite exceptionally in the middle of the way between Veracruz, on the Gulf coast, and Mexico City. The transportation infrastructure is excellent for both the suppliers' and the company's needs. Railroa ds and trailers are widely used and their freights can get to most of the country within 24 hours. This is a major business opportunity that has been properly exploited so far.

Along with this easiness for freight mobility, the mobility of the people is a factor that allows a constant pool of prospective workers for this site to be present at all times. There will never be a shortage of employees as long as this company remains as attractive as it is right now. Even though 92% of the technicians are locals, the remaining 8% has been gradually enriching the cultural diversity of the site, helping out in the globalizing effort that the company is carrying on everyday.

The weather is also quite noble; Apizaco has an average daily temperature of 18°C, which makes it very pleasant to live at. The rainy season goes from May to October, a period where the nearby rivers and subterranean fresh water sources fill up to provide this

valuable resource to the population during the whole year. Apizaco's name comes from the Nahuatl "where water flows", which can still be witnessed nowadays in several water springs found along the city. The abundance of water promotes the establishment of industries of all sorts in the area.

The industrial boom of the city has also given Apizaco some terrific economic benefits, which can be seen in the great number of banks, stores, restaurants and hotels scattered around the city, which at the same time is perfectly communicated with the rest of the state's cities and with those of neighboring states.

As it could be seen through this chapter, there is much more to consider when trying to implement working systems in a manufacturing facility than just posting all over slogans and ads. Several cultural, social and economical aspects have to be first identified, then understood and finally taken into account to guarantee that the implementation of corporate standards will be successful. This effort will require the involvement of the management, the supervisors and the operators in order to make it as complete and effective as possible, there is no space for unilateral approaches because recent history has shown that they are no longer worth following because no really long lasting results will be obtained. Respect, communication, trust and teamworking are the basis for a sustainable and productive work relationship. A win-win situation must always be pursued to guarantee that both parts will enjoy the benefits of such relation.