

# **Global Project Management: Pre-project Planning for International Construction Projects**

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## **Abstract**

Because of the many different issues that can affect the construction of an international project, planning is very important. In order to properly plan for a construction project in a foreign location, pertinent issues should be identified. Information must be gathered and researched in order to establish these important issues. The data for this paper was gathered through personal interviews and discussions with construction companies and organizations in Western Europe and the United States. This paper presents issues that relate to pre-project planning of international construction and conclusions are made regarding the main challenges of international construction and what can be done to overcome them through proper pre-project planning.

## **Key Words**

Pre-project Planning, International Construction

## **1. Introduction**

A successful completion to an international construction project can be difficult due to the uncertainties and complexities associated with the international construction domain (Han & Diekmann, 2001). A construction project in a foreign location can carry with it many different issues, as opposed to a domestic project. The majority of extra costs and delays relating to international projects are mainly attributed to either unforeseen issues or foreseen issues for which risk has not been appropriately included in the project budget (Hashem, 2000). One of the main challenges of international construction is to properly identify and incorporate these issues into a project plan before construction begins. This paper presents many important topics that need to be explored when planning a foreign construction project. From the evaluation of these issues, a contractor will be able to better understand and prepare for a foreign project. With proper pre-project planning regarding issues discussed in the following sections, the complexities and uncertainties relating to international construction can be limited. If a project team can identify these issues during the planning stages of a project, then a successful outcome is possible.

The purpose of this study is to identify issues pertaining to international construction that should be taken into account during the planning stages. Because these issues differ in every country, understanding the reasons for these differences is important. By looking at different aspects and processes that can be evaluated before the construction of an international project, this research helps a construction company to better understand why pre-project planning is so important. Furthermore, while all the actual information

gathered during the pre-project planning stage may not be pertinent, the planning itself must be done; otherwise the important information cannot be identified.

## 2. Definitions

The definitions of the following terms listed below refer to the meaning in which they are used in this paper.

1. *Expatriate*- A person working in a country other than their own.
2. *Foreign location*- a country or area that is out of a construction company's home country, and where they have not performed construction before.
3. *Freight Forwarding*- The moving of freight from one location to the next. This can be from one country to another or within a country.
4. *General market overview*- Important broad issues and aspects about a foreign location that may be unknown to an outside construction company.
5. *Host Country*- The country in which an international construction company is performing construction.
6. *International construction*- construction performed outside a construction company's home country.
7. *Pre-project planning*- The overall planning of a project before construction begins.

## 3. General Market Overview

When evaluating the general market of a foreign country or territory, many questions need to be answered in order to plan for successful construction. The lack of general knowledge of a foreign location is one of the greatest hurdles of an international project. Unfortunately, each location varies with regard to issues such as:

- Cultural Differences
- Climate
- Currency and Rates of Inflation
- Requirements for Business Participation
- Taxation
- Construction Regulations and Practices
- Local General Contractor Resource

### 3.1 Cultural Differences

The culture of a region or country is directly affected by issues such as geography, history, political and economic forces, languages, and religion. Although depending on the area of the world, similar cultures will exist in areas such as Latin America and Asia. When a construction company embarks on an international construction project, addressing a country's culture cannot be underestimated. Identifying all aspects of a country's culture is unnecessary; however, a project team must consider the cultural differences that are pertinent to the overall operations of a project. This cultural knowledge will enable a contractor to more effectively manage a foreign project (Pheng & Alfelor, 2000). Communication, for example, is a difficult cultural barrier to overcome. A language barrier between contractor and local workers can cause miscommunication on the jobsite (Humphreys, 1997). Even if the spoken languages are generally understood, a lack of technical understanding relating to construction can exist. The use of translators may need to be incorporated into a projects budget in order to assist with communication (Gaythorpe, 1999).

Other cultural differences may include local religion and the values and beliefs specific to the culture. If local religious practices affect activities on the jobsite, these factors must be assessed and implemented into the project plan. For example, the Islamic religion observes the month of Ramadan, the Islamic holy month of fasting. During this period, Muslims do not eat or drink anything during the hours of sunlight, and must interrupt their work to pray facing the direction of Mecca. In this case, a contractor must be prepared for a lack of productivity on the jobsite during this month by planning for this in the project schedule. With a

general understanding of a local culture, a project team can avoid unnecessary conflicts by accommodating and accounting for certain differences (Pheng & Alfelor, 2000).

### 3.2

#### Climate

The climate of a country, depending on the location, can have a major affect on construction as a whole. If a construction firm is not familiar with a country's climate, this lack of data can also affect the project schedule and overall jobsite productivity. The predictability of seasonal climate conditions that affect construction activities along with historical weather data should be analyzed in order to plan accordingly (OBO 3, 2004). Skanska International is a business unit of Skanska AB and one of the largest construction companies in the world. When planning for an international project, they consider certain aspects of climate conditions such as:

- Yearly temperature changes including: mean, maximum, and minimum temperature for each month.
- Variations in humidity.
- Yearly and monthly rainfall including: run-off, evaporation, influence on ground surface, and torrential rain periods and durations.
- Storms including: sandstorms and hail.
- Flooding.
- Earthquakes. (Skanska, 1998)

Obviously, not all of these listed items will exist in every project location, but the question arises as to *how many of these issues differ from that of a construction company's home country* (Woodward & Humphreys, 1998)? A substantial temperature change can affect construction activities such as concrete placement and overall productivity on the jobsite. If climate issues are substantial enough, lack of planning can prolong the overall project schedule.

### 3.3 Currency & Rates of Inflation

Many decisions can be affected after analyzing the local currency of a country. During the planning stages, a certain country's currency can be determined *unstable*, and a more stable currency can possibly be negotiated instead. In some situations, this type of determination cannot be predicted. In 1997, for instance, the Asian *paper tiger*, currencies for Thailand, Philippines, Malaysia, and Indonesia, lost 30 % or more of their value in less than three months. However, none of these currencies had a history of instability before that time (Woodward & Humphreys, 1998). Also, the inflation of prices can influence the decision to import certain materials instead of buying them locally. Because of the value of local currency, in some instances importing materials such as reinforcing steel has been less expensive than buying locally. Other factors, such as a current exchange rate for local currency, are useful for estimating purposes once local prices have been gathered (Woodward & Humphreys, 1998).

### 3.4 Requirements for Business Participation

Regulations and procedures associated with local business participation should be identified in order for a contractor to legally commence with construction operations. Depending on government policies, a contractor may be required to joint venture or subcontract with local companies (OBO 3, 2004). In some areas, a company can work in the country as an international company or as a local company. In the Bahamas, for instance, a foreign company can assume a local partner and become a legal local business. This is not a requirement by the government but can be used for tax exemption purposes from a company's home country (Lewis, 2004). Comparatively, Bamako, Mali, located in West Africa, is a possible location for a new U.S. embassy. The requirements for obtaining a business license for this area include associating with a local company and establishing a branch office in Mali. Time limitations for receiving a business permit/license will also vary with each location. In Mali, the time involved with licensing takes approximately 15 days before approval (OBO, 2002).

### 3.5

### Taxation

Just as government regulations for each country can differ, the taxes imposed on a foreign contractor can vary as well. The taxes in a foreign country associated with a construction project should be identified, in order to accurately project construction costs (Russell, 2002). When evaluating foreign locations for construction, the Office of Overseas Building Operations [OBO] identifies existing taxes that a U.S. contractor can incur including: income tax, property tax, stamp tax, construction tax, payroll taxes, and value-added tax. Depending on the type of international project being built, some of these taxes can be lowered or made exempt. In countries, such as Mali, exemptions from value-added tax (tax assessed for local material purchases) are possible through case by case government approval (OBO, 2002). A *foreign* country's personal taxation can be minimal compared to a contractor's home country. In this case, company employees can benefit by qualifying for a tax exemption. For example, if a U. S. citizen is working out of the country and does not live in the U.S. for more than 35 days within any 365 day period, they can be exempt from all personal income tax except social security (Lewis, 2004). With this type of benefit, international construction can become very appealing to a contractor's employees.

### 3.6 Construction Regulations & Practices

Local construction regulations and practices will differ depending on the country. In regard to building practices, differences will depend on the amount and cost of construction labor in the area. For example, with a strong inexpensive labor force, placing and mixing concrete by hand can prove to be more economical than using a ready-mix truck (Woodward & Humphreys, 1998). Relating to building codes and standards, many countries adopt the code standards from other countries instead of creating their own. In the country of Mali, the French code standard is used for all building codes and regulations. Also, in terms of acquiring a local building permit, building codes can be similar such as the U.S. and French codes. Because of this, in Mali, project plans can be submitted for permit using U.S. code design (OBO, 2002). Usually, if a construction company is based out of a well developed country, such as the U.S., most of the foreign code standards will be equal or less stringent compared to domestic codes (Agnew, 2004). When assessing safety regulations, a foreign country's concern tends to relate to how *developed* they are. In a developed country such as England, safety will be a major issue; where as a foreign construction company can be the one to impose simple safety regulations, such as wearing shoes, for a construction project in an under-developed country. Furthermore, underdeveloped countries may lack organizations to regulate construction safety. In this case, a construction company must regulate themselves in order to keep a safe jobsite. An experienced owner will also keep a construction company in check with regard to injuries on the jobsite (Agnew, 2004; Byng, 2004).

### 3.7 Local General Contractor Resource

A local general contractor can be an enormous resource for an international contractor with regards to construction information. Many local contractors will help in every aspect of construction if their participation in the project is substantial. If actual construction participation is not applicable or needed, they can also act as a local construction consultant and advisor to an international contractor. By using a local general contractor as a consultant, procedures and requirements for a foreign country can be made known and followed much easier. Moreover, a local contractor can recommend a dependable labor resource, as well as available equipment and materials in the area. When making a site visit to a foreign area, international construction companies, such as B. L. Harbert International, feel that finding a dependable local general contractor to use as a resource can be invaluable during the planning stages of a project. By having a local resource such as this, a site visit will also be much more productive and accurate, therefore contributing to the overall project success (Agnew, 2004).

## 4. Conclusions

In conclusion, only some of the variations and differences around the world regarding international construction are realized. The key to successful construction in foreign locations comes from the experience and knowledge contractors surround themselves with. This is especially true for a construction company

performing construction in a country for the first time. This type of construction can be the most challenging when guidance cannot be provided for the complexities in a foreign location. The general market of a foreign location seems to contain the widest range of variation with regard to the other discussed sections. The cultural differences alone can totally change how a project is put together. At the same time, however, the culture can be very similar to a contractor's home country, and therefore would not have a huge affect on the planning of a project. Local construction regulations and practices can also force a contractor to operate in a different way than usual. If these types of issues are not properly planned for problems will occur throughout the project.

With regard to importing and transporting goods to the jobsite, this method will be generally similar wherever a project is located. The task of keeping the imports on schedule for delivery (i.e. keeping shipment containers out of customs lock down) can be the hardest part. Other main differences come from constructing a project in an underdeveloped area where import capacities, facilities, and in-country transport can be inadequate. Again, for a contractor to gather experienced advice in this area is priceless. Important aspects concerning construction equipment and materials, as well, go back to the development of a foreign area. In an underdeveloped country or area, the means to acquire certain materials and equipment for construction can be more difficult than a country such as the United States. The availability or level of difficulty to acquire construction materials and equipment, totally depends on the amount an area regularly uses certain items. Similarly, the overall labor aspect of international construction, totally depends on the area in which a project is located. Concerning the use of local skilled labor and subcontractors, the amount of construction experience and development in the area will directly affect the amount of supplemental expatriate labor needed. Unskilled labor, however, will be more dependent on the local population and unemployment rate. With regard to importing supplemental labor into any foreign country, generally speaking, processes will be similar. The important element bases around identifying the relevant issues and properly preparing them in the project plan and budget. The level of which an area is developed and the amount regarding the local cost-of-living seems to be the most important aspects of a foreign project's general requirements. The availability and cost of temporary facilities, personnel transportation, living accommodations, and medical facilities will directly portray this. Although many other factors make up the general requirements of a project, these issues are the most important. These costs and issues should be identified in order to develop a plan for action.

An international project can carry with it many risks relating to every aspect of construction. One of the main challenges of international construction is to properly identify, analyze, and evaluate these risks. Although the data gathered for this paper is far from a complete list, many important topics regarding international construction are evaluated. Because of the many unknown differences regarding the general construction market data of a foreign location, extensive research should be compiled and incorporated into a project plan before construction begins. Advice from international and local experienced individuals will greatly facilitate this plan. Without proper preparation for an international construction project, a high level of success will be jeopardized.

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