Written Assignment 1
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In the event that I worked for a company that intended to manufacture and produce a product in Mexico, while having operations based in the United States, there are many issues and complications that could arise. For example, there is an obvious language barrier, as discussed in the case study, that could cause miscommunications on not only design specifications, quotas, deadlines, etc. It's important not only to take into account the language difference between the countries, but also any legal differences. There may be different laws regarding minimum compensation or scheduling for manufacturing workers. While labor costs may be cheaper in a country such as Mexico, the costs to search for viable candidates and set up manufacturing facilities can be prohibitive.

A large reason for those prohibitive costs can be attributed to the developing infrastructure, power grid, and securing local suppliers. Infrastructure and power generation are things that large manufacturers take for granted in the United States, but they may not be as reliable in other countries--at least not ones where the labor costs can get as low as one tenth of what an American worker would expect. Furthermore, securing essential manufacturing chemicals could be difficult, as there is unlikely to be any local suppliers, and even if there are, they likely hold a monopoly on that supply. So, the company will be left to either pay whatever prices local suppliers are demanding, or ship in the supplies from another country--which holds exorbitant fees in and of itself. There may be difficulties securing a location that has access to reliable internet connection as well, which would be vital in a multinational manufacturing engineering operation.

Even if these costs could be overcome, there remains a problem of securing the necessary educated workforce. Technologies such as automation require special skills and technical degrees, which are likely to be in short supply in a developing country such as Mexico. So, the company is left to either pay whatever the local engineering population is demanding, or to bring in foreign workers who will likely expect large compensation for their travel and living expenses. Training the workforce also remains as an issue that has its own hurdles--varying levels of background knowledge, cultural differences, and the ever-present language barrier all make for an inefficient training environment. The case study suggests that there is some knowledge in engineering industries that could be described as "tacit", or implicit and difficult to teach. The workforce would be expected to quickly learn this tacit knowledge that had been accrued over years of operating and optimizing existing facilities in the U.S.

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Furthermore, there remains issues with simply securing a location to construct the facility. Taxes and customs requirements range widely from country to country, and while Mexico has a relatively good relationship with the U.S., it will accrue its own taxes for the operations of a foreign company on its own soil. Finding a location with the right resources could also be a challenge, not only workforce but also having sufficient infrastructure in the surrounding area to support the housing of said workforce.

There are also difficulties to be considered with political instability and corruption in the region. It may be difficult to secure a location that wouldn't be subject to crime or political maneuvering

that could negatively impact the operations of a manufacturing facility. Thus, there may be more expenses required to cover security personnel.

It's important to understand that developing countries such as Mexico are willing to work with these technical manufacturing companies from the U.S. and around the world in order to reshape their image. Providing cheap and unskilled labor at a low cost is not their end goal, and they see collaboration as a great way to attract technical skills to their population. Thus, they are likely willing to work with the company to reach an amicable end goal. This doesn't mean they'll bend over backwards to get foreign operations into their country, but it may alleviate some of the issues discussed.

The current trend of globalization in the field of electrical and computer engineering poses both challenges and opportunities for professionals in the industry. While it offers greater collaboration and diversity in ideas across various countries and cultures, it also demands that engineers remain up-to-date with rapidly changing technologies and market demands.

To meet these challenges, engineers must focus on developing a strong technical foundation while also honing their communication and collaboration skills. This could mean exploring cross-cultural exchange programs, building networks with other professionals in different regions, and engaging in continued education and training to stay abreast of the latest technological advancements and industry trends.

Moreover, engineers must be aware of the ethical and cultural implications of working on global projects and be prepared to handle them sensitively and respectfully. This involves learning and understanding different cultural practices and norms, as well as pursuing cross-cultural education and training opportunities. Companies simply cannot hire personnel whose only job is to be personable with foreign colleagues, this must be expected of the engineering personnel themselves as the transfer of information has to be direct.

In order to prepare for the challenges involved with the rapid globalization of the engineering industry, it is important to cultivate talents such as people and communication skills, which traditionally wouldn't be considered closely related to engineering. These skills have become ever more important as the global marketplace has necessitated interaction with a wide range of people from different cultures, speaking different languages and with different expectations of workplace etiquette. These interactions are expected of engineers now because only those with the tacit knowledge of their industry can truly make advancements in their field--now with the help of the global community.

While it has always been important for workers in the engineering industry to be able to work together to solve a problem by designing a solution, now it has become even more vital to hone those communication skills so that despite any barriers between colleagues, strides can be made in their field. Overall, with the right mindset and skill set, electrical and computer engineers can thrive in a globalized engineering environment, leveraging the benefits of

globalization to advance their careers and contribute to innovative and impactful projects worldwide.