Cultural and Political Risks in International Construction Projects

A Research Paper submitted to the Department of Engineering and Society

Presented to the Faculty of the School of Engineering and Applied Science
University of Virginia • Charlottesville, Virginia

In Partial Fulfillment of the Requirements for the Degree
Bachelor of Science, School of Engineering

Diyar Rashid
Spring, 2021

On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

Signature  Date __5/4/2021__
Diyar Rashid

Approved _  _____ Date _5/4/2021___
Dr. Hannah Star Rogers, Department of Engineering and Society

Abstract

Globalization facilitates rapid economic growth by introducing foreign capital and technology into developing markets, helping the world GDP grow from around 50 trillion USD in 2000 to 75 trillion USD in 2016 ("New globalization," 2017). Although globalization creates more economic opportunities for society, there are obstacles to obtaining such benefits, especially in the construction industry. Domestic contractors are increasingly entering international markets for their high profit margins, but there are also risks with this activity. Such contractors are familiar with delays due to weather or shipment delays, but risks due to cultural and political differences are infrequently included in formal analysis (Chan & Tse, 2003). This sociotechnical project will apply risk analysis to cultural and political aspects of international construction projects. Culture and politics pose risks to international construction projects as demonstrated through case studies from Nigeria and Egypt. This study finds that a more thorough consideration of cultural and political risks in international construction projects may reduce the risk of delays and contractual disagreements.

Cultural and Political Risks in International Construction Projects

Introduction

Construction contractors are expanding their portfolios into global markets, with "international revenue of the top 225 contractors [growing] from $106.5 billion in 2001 to $453.02 in 2011" (Kadry, Osman, & Georgy, 2016). However, construction projects are experiencing delays which has meant that only "25% of [construction] projects came within 10% of their original deadlines in the past 3 years" (*KPMG's 2015 Global Construction Survey*, 2015). The global expansion of construction means that construction contractors have to confront new risks not readily recognized by the construction industry or discussed in detail in the current literature on globalizing construction businesses. Less commonly identified risks in literature are cultural issues, ranging from human problems such as language and communication, to the contextual environment of the region (Chan & Tse, 2003). Political risks are more recognized, and political risk studies have been carried out since the 1980s, but these studies have not identified or addressed the root causes of political risks (Maemura, Kim, & Ozawa, 2018). A comprehensive understanding of political and cultural risks will reduce project schedule delays and disruptions. Risk analysis is being applied to identify political and cultural risks, and consider ramifications and solutions. The perspective from risk analysis will not only guide construction contractors with project schedules and contracts, but will also aid in the management and prevention of issues arising from differing perspectives. Culture and politics pose risks to international construction projects as demonstrated through case studies from Nigeria and Egypt.

Research Methodology

Documentary Research and Historical Case Study methodologies will be used. The sources will be from Civil Engineering and Construction Management Journals, using the keywords "international construction," "culture," and "politics." Background information will be provided on international construction markets, current methods domestic contractors utilize to enter international markets, and broad factors affecting international construction (Gunhan & Arditi, 2005; Tijhuis & Fellows, 2011). After initial background is provided, more specific cultural and political risks will be addressed (Ashley & Bonner, 1987; Chan & Tse, 2003; Kadry, Osman, & Georgy, 2016). This documentary research will demonstrate the importance of considering cultural and political aspects of international construction. Historical case studies will be used to demonstrate the ramifications of cultural and political risks. Case studies from Egypt and Nigeria will highlight construction delays and contractual conflicts due to culture and politics (Abd El-Razek, Bassioni, & Mobarak, 2008; Aibinu, & Odeyinka, 2006). Finally, methods to reduce or prevent cultural and political risks, such as new dispute resolution methods in construction project clauses, will be introduced (Gad & Shane, 2017). This will demonstrate that there are ways to address political and cultural risks on a more formal basis.

Background on International Construction in the 21st Century

Construction contractors are expanding into international markets for many reasons. Some reasons include "stagnant domestic markets, spreading risk through diversification into new markets, competitive use of resources, and taking advantage of the opportunities offered by the global economy" (Gunhan & Arditi, 2005). As enticing as the opportunities international markets have the potential to provide are, international construction poses much more risks in comparison to its domestic counterpart. International markets are affected by "diverse variables

that are not part of the domestic markets and that create risks never encountered in domestic conditions" (Gunhan & Arditi, 2005). The stakeholders involved in construction projects are primarily contractors, subcontractors, and suppliers of materials and components (Tijhuis & Fellows, 2011). As a project's size increases, complexities increase due to technical inclusions, more diverse stakeholders, and scale (Tijhuis & Fellows, 2011). Project complexities are especially difficult to manage within the context of international projects, where several parties of different nationalities need to avoid conflicts relating to laws, regulations, contracts, and jurisdictional problems (Gad & Shane, 2017). A deeper understanding of political and cultural risks will reduce project schedule delays and disruptions. Construction contractors should thoroughly consider both the opportunities and challenges each international market has to offer.

There are qualities that construction contractors can possess to make them less susceptible to the potential risks of international construction. The first major quality to have is long and established experience within the construction industry. Experienced contractors have "either a ready solution or a cheaper one to a technical problem because it has encountered a similar problem in the past and has invested in its solution" (Gunhan & Arditi, 2005). Prior experience means a contractor has encountered more challenges throughout its history, which means the contractor is less likely to encounter entirely new challenges. Another major quality to possess is expertise within specific specialties. For instance, "in the international arena, United States based companies have a major share of the power, industrial/petroleum, hazardous waste, and sewer/waste markets" (Gunhan & Arditi, 2005). However, United States based contractors don't possess such advantage when it comes to simpler construction projects due to their high costs. The last important quality is having top-notch project management experience. United States based contractors frequently win contracts "not only because of their experience with

advanced technologies, but also because of their organization and management skills" (Gunhan & Arditi, 2005).

Although the aforementioned qualities can make contractors less susceptible to the risks of working in an international market, not all risks can be reduced or eliminated. One potential risk of international construction is losing critical employees due to resignation or retirement. Employees working for an international construction project possess a more diverse set of qualities and qualifications that make them more apt to work in such an environment. Losing such an employee can "hamper communication with local entities, exacerbate the clash of cultures, lead to misunderstandings of the risks involved, and consequently may influence the project in a negative way" (Gunhan & Arditi, 2005). Another risk is the owner's limited financial resources. There are endless construction opportunities available abroad, but many have either "a lack of capital, or a lack of ability on the part of owners to balance financial resources against construction needs" (Gunhan & Arditi, 2005). Currency fluctuations also pose a risk to construction contractors. Currency fluctuations have many implications, ranging from increased costs of imported materials, plant, and equipment to increased costs of loan repayments and interests incurred by local operations for foreign debt (Gunhan & Arditi, 2005). Other foreign competitors also pose a risk to international construction considering the fact that the international construction industry has boomed within the past decade. This new environment means that "success only partially depends on price competition, and other factors which differentiate a contractor's product from that of competitors become more crucial" (Gunhan & Arditi, 2005).

Less commonly identified in formal analysis are cultural issues, ranging from language and communication problems, to the contextual environment of the region (Chan & Tse, 2003). Amongst nations exists "striking and significant differences of attitude, belief, ritual, motivation, perception, morality, truth, superstition, and an almost endless list of other cultural characteristics" (Gunhan & Arditi, 2005). This requires contractors to be open-minded and cross-culturally competent. Possessing this competency requires being able to manage "in seven dimensions: universalism versus particularism, individualism versus communitarianism, specific versus diffuse, neutrality versus affectivity, inner directed versus outer directed, achieved versus ascribed status, and sequential versus synchronic time" (Chan & Tse, 2003). To avoid contractual disputes requires understanding that "people of two different cultures have different tolerances for uncertainty avoidance" (Chan & Tse, 2003).

An identified risk for international construction projects is a host country's political uncertainty (Maemura, Kim, & Ozawa, 2018). Political risk studies have been carried out since the 1980s, but these studies have not identified or addressed the root causes of political risks (Maemura, Kim, & Ozawa, 2018). Understanding the root causes of political risks will allow for better management of these risks. Political risks can be classified as macro and micro, with "macrorisks [being] politically motivated events that impact foreign enterprises in a general sense; they are events that create risk for all foreign enterprises. Microrisks are factors impacting a specific firm or business sector" (Ashley & Bonner, 1987). The chance of facing political risks is related to the stability of a country's political system. Some specific factors include "religious or racial factors, social unrest, recent or impending independence, new international relations, forthcoming elections, extreme programs, vested interests of local business groups, and proximity to armed conflict" (Ashley & Bonner, 1987).

Risk Analysis

The STS theory that will be applied to this project is risk analysis. Risk analysis not only involves the identification of risks, but it also considers ramifications and solutions of such risks. Risk analysis is based on the concept of risk society coined by German sociologist Ulrich Beck. Risk society is defined as "a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself" (Beck & Ritter, 2013). A criticism of risk society is that the theory 'totalizes' risk, such that risk the center of contemporary life and therefore neglecting other important factors (Curran, 2016). Another critique is that some argue that risk society should be considered as a series of important social processes in society rather than an "epoch distinct from all others" (Curran, 2016). Risk analysis will answer the research question based on the concept that "the less risks are publicly recognized, the more risks are produced" (Beck & Ritter, 2013). Although the risks involved with international construction are apparent, these risks are sparingly recognized on a formal basis. Risk analysis will be used to identify cultural and political risks, while also considering ramifications. The information gathered from risk analysis will aid in the development of solutions to the aforementioned risks. This research will not only help construction contractors with project schedules and contracts, but will also help engineers how to best manage and prevents issues that arise from differing perspectives. The following two case studies from Nigeria and Egypt were selected to highlight more specific political and cultural risks, respectively.

Case Study 1: Nigeria

The case study conducted by Aibinu & Odeyinka (2006) assessed the causes of construction delays in Nigeria by analyzing data from completed building projects and questionnaire surveys of construction managers. Prior studies have also assessed the causes of delays in construction projects and found agreement between professionals surveyed on factors potentially contributing to delays. A prior study found that the contractor, consultants, and clients agreed that the "financing of and payment for completed works, poor contract management, change in site conditions, and shortages of materials" were important factors contributing to delay (Aibinu & Odeyinka, 2006). Aibinu & Odeyinka (2006) determined that the top ten factors contributing to delay include:

1. contractors' financial difficulties
2. clients' cash flow problem
3. architects' incomplete drawing
4. subcontractors' slow mobilization
5. equipment breakdown and maintenance problems
6. suppliers' late delivery of ordered materials
7. incomplete structural drawings
8. contractors' planning and scheduling problems
9. price escalation
10. subcontractors' financial difficulties (Aibinu & Odeyinka, 2006)

The study also found that "about 88% of the identified delay factors are responsible for about 90% of the overall delays on building projects surveyed" (Aibinu & Odeyinka, 2006). This

means that none of the 44 delays factors particularly stand out as being a significant contributor to delays. Although none of the delay factors stood out in particular, a common theme among the many of the top delay factors were in relation to finances. The study identified that "contractors in Nigeria have little access to credit facilities" and "most banks in Nigeria are reluctant to provide financing for construction projects" (Aibinu & Odeyinka, 2006). However, political corruption can be influential in Nigeria's construction projects, influencing both costs and scheduling of projects.

Ebekozien (2020) mentioned a specific instance of corruption in Nigeria, where "a governor alleged that his predecessor spent over $440 million USD on the monorail in the state but the project is far from completion while his counterpart in Cross River that has spent less than $400 million USD has its rail project almost ready for use (Point Blank News 2016). While in Moscow, Russia, the same project cost about $240 million USD by the same monorail manufacturer" (Ebekozien, 2020). This specific instance of corruption demonstrates that a cost of a construction project can be influenced by political entities. This exuberant escalation of cost can contribute to financial difficulties, meaning corruption has an influential role and contribution the delay factors listed above. The restructuring of the governmental organizations and new regulations should be put into place to overcome corruption.

Case Study 2: Egypt

The case study done by Abd El-Razek, Bassioni & Mobarak (2008) conducted a literature review and questionnaire surveys to identify the most important causes of delay in Egypt. Prior studies in the literature review noted that major delay causes for construction projects in Egypt include "poor contract management, unrealistic scheduling, lack of owner's financing/payment for completed work, design modifications during construction, and shortages in materials such as cement and steel" (Abd El-Razek, Bassioni, & Mobarak, 2008). Major delay causes determined by the questionnaire survey include "financing by contractor during construction, delays in contractor's payment by owner, design changes by owner or his agent during construction, partial payments during construction, and non-utilization of professional construction/ contractual management" (Abd El-Razek, Bassioni, & Mobarak, 2008). Although most delay causes can be influenced by culture to a certain extent, focus will be placed on the influence of culture on "unrealistic scheduling."

A survey conducted by El-Gohary & Aziz (2014) determined that "incentive programs," which consist of additional monetary benefits beyond typical wages, were among the most important factors affecting construction labor productivity in Egypt. This is due to the demographics of the construction labor in Egypt, which is composed of laborers from villages and rural regions going to work in the city where the majority of construction happens (El-Gohary & Aziz, 2013). The motivation for working in the city is primarily for monetary reasons (El-Gohary & Aziz, 2013). Incentive programs create a greater sense of motivation and satisfaction among laborers, therefore "higher efficiency is achieved on sites" (El-Gohary & Aziz, 2013). These findings have led El-Gohary & Aziz (2014) to recommend that "incentive

programs should be a part of Egyptian contractors' policies and practices" (El-Gohary & Aziz, 2013). By considering the culture of the construction labor force in Egypt in regards to behavior and way of life, construction contractors can further improve efficiency into the construction process through practices such as incentive programs. Improved efficiency in the construction process means that project event durations can be reduced, therefore making "unrealistic scheduling" as a delay cause less prominent.

Potential Solution and Counterarguments

Although the risks posed by culture and politics on the construction process cannot be eliminated, there are solutions which can assist in navigating and potentially reducing the encountered risks. Gad & Shane (2017) created a dispute-resolution method culture-risk-trust model, also referred to as a DRM-CRT model, which would help international contractors choose a proper DRM based the region they are planning to operate in, such as the Middle East or Asia.

A potential argument that can be posed is that culture and politics do not pose as significant of risk to the project schedules of construction projects as much as the slow adoption of new technologies in the construction industry, thus the construction industry should not place as much importance on these risks. Utilization of technologies such as artificial intelligence can help reduce many delays and disruptions, such as tracking worker fatigue, which can make the importance of delays due to culture and politics more negligible. However, the Nigeria case study demonstrated that corruption is rampant and influential in construction. Advanced technologies could be introduced in Nigeria and potentially reduce delays due to equipment breakdowns or late delivery of materials, but confronting corruption will need more than

advanced technology. Advanced technology may be able to detect corrupt activities, such as when a project cost is too high in comparison to projects with similar scopes and locations, but to corrupt activities would require modifications to the political system, such as through new laws and regulations.

Conclusion

The construction industry is experiencing rapid growth in international markets, but the new opportunities these markets afford also pose risks that many domestic construction contractors have not encountered before. Contractors will need to put more emphasis on considering culture and politics when considering projects internationally, as demonstrated by the case studies from Nigeria and Egypt. The case study from Nigeria demonstrated that politics can be influential on construction projects, such as through corruption increasing project costs. The case study from Egypt showed that considering the way of life of laborers can improve efficiency within the construction process. Although the risks posed by culture and politics can never be entirely eliminated, putting more importance on these factors can reduce delays and cost overruns. The construction industry can cope with these risks through multiple approaches. Contractors can hire specialists to focus specifically on risks posed by culture and politics. An alternative approach can be turning to local consultants to help contractors become cognizant of the challenges in specific regions. Aside from contractors taking responsibility for cultural and political risk, governmental organizations can also help contractors cope with these risks. Governments should have more regulations in place that provide contractors with clear guidance as to approaching cultural and political risks.

References

Abd El-Razek, M. E., Bassioni, H. A., & Mobarak, A. M. (2008). Causes of Delay in Building Construction Projects in Egypt. *Journal of Construction Engineering and Management*, *134*(11), 831–841. https://doi.org/10.1061/(ASCE)0733-9364(2008)134:11(831)

Aibinu, A. A., & Odeyinka, H. A. (2006). Construction Delays and Their Causative Factors in Nigeria. *Journal of Construction Engineering and Management*, *132*(7), 667–677. https://doi.org/10.1061/(ASCE)0733-9364(2006)132:7(667)

Ashley, D. B., & Bonner, J. J. (1987). Political Risks in International Construction. *Journal of Construction Engineering and Management*, *113*(3), 447–467. https://doi.org/10.1061/(ASCE)0733-9364(1987)113:3(447)

Beck, U., & Ritter, M. (2013). *Risk society: Towards a new modernity*. London: Sage Publications.

Chan, E. H. W., & Tse, R. Y. C. (2003). Cultural Considerations in International Construction Contracts. *Journal of Construction Engineering and Management*, *129*(4), 375–381. https://doi.org/10.1061/(ASCE)0733-9364(2003)129:4(375)

Curran, D. (2016). *Risk, Power, and Inequality in the 21st Century*. Basinstoke: Palgrave Macmillan.

Ebekozien, A. (2020). Corrupt acts in the Nigerian construction industry: Is the ruling party fighting corruption?: Journal of Contemporary African Studies: Vol 38, No 3. (n.d.). https://www.tandfonline.com/doi/full/10.1080/02589001.2020.1758304

El-Gohary, K., & Aziz, R. (2013). Factors Influencing Construction Labor Productivity in Egypt | Journal of Management in Engineering | Vol 30, No 1. (n.d.). https://ascelibrary.org/doi/abs/10.1061/%28ASCE%29ME.1943-5479.0000168

Gad, G. M., & Shane, J. S. (2017). Culture-Risk-Trust Model for Dispute-Resolution Method Selection in International Construction Contracts. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, *9*(4), 04517020. https://doi.org/10.1061/(ASCE)LA.1943-4170.0000242

Gunhan, S., & Arditi, D. (2005). Factors Affecting International Construction. *Journal of Construction Engineering and Management*, *131*(3), 273–282. https://doi.org/10.1061/(ASCE)0733-9364(2005)131:3(273)

Kadry, M., Osman, H., & Georgy, M. (2017). Causes of Construction Delays in Countries with High Geopolitical Risks. *Journal of Construction Engineering and Management*, *143*(2), 04016095. https://doi.org/10.1061/(ASCE)CO.1943-7862.0001222

KPMG's 2015 Global Construction Survey. (2015, March). Retrieved 2020, from https://assets.kpmg/content/dam/kpmg/pdf/2015/04/global-construction-survey-2015.pdf

Maemura, Y., Kim, E., & Ozawa, K. (2018). Root Causes of Recurring Contractual Conflicts in International Construction Projects: Five Case Studies from Vietnam. *Journal of Construction Engineering and Management*, *144*(8), 05018008. https://doi.org/10.1061/(ASCE)CO.1943-7862.0001523

New globalization report: Three mega-trends expected to impact our future | UN DESA Department of Economic and Social Affairs. (2017). Retrieved October 27, 2020, from https://www.un.org/development/desa/en/news/intergovernmental-coordination/new-globalization-report.html

Tijhuis, W., & Fellows, R. (2011). *Culture in International Construction*. CRC Press LLC. http://ebookcentral.proquest.com/lib/uva/detail.action?docID=738695