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RISK MANAGEMENT FOR MULTINATIONAL COLLABORATIONS: APPLICATION ON THE CASE STUDY OF GRAND EGYPTIAN MUSEUM

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Abstract
Multinational collaboration projects have a very sensitive nature, where specialized teams must be formed and informed of desired tasks in a progressive manner. Mega-construction Buildings in particular - as a nation's landmark - fall under the category of multinational collaborations and are subjected to many complex variables affecting their success. In these projects, leaders of all parties involved must attain a very high level of cross- cultural intelligence, leadership knowledge and skills to face different design challenges that will certainly occur during the process. Recently, new management Philosophies arose to fulfil the gap resulting from the rapid demand and growth of organizational maturity; accordingly, risk management was adopted by most multinational construction firms to maintain a productive streak in the new globalized market. In Egypt, due to the unpredicted risks and lack of efficient leadership knowledge, many firms revoke collaboration investments in order to avoid these risks rather than adapting to the new situations, thus affecting the development of projects of targeted countries. Hence, this research aims to optimize project efficiency by identifying and investigating the root causes of risks facing a major multi-national mega pilot project: *the case of the grand Egyptian museum,* in addition to conducting literature reviews, an interview, and a Delphi panel. The study findings shed light on the key risks affecting the success of multinational mega projects in the Egyptian Construction context.

Keywords: Grand Egyptian Museum, Multinational construction projects, Risk Management

1 Introduction

Risks included in construction projects are either derived from external or internal sources, where external risks normally represent environmental-related risks, while internal risks exist in the project itself. However, these risks are more evident in the Multinational Construction Projects, which incurs more uncertainties. This owes to their large size and the international involvement of different stakeholders, (Zhi, 1995). In Egypt, for example, the fluctuation of economy and governmental policies had a vast impact on the status of implementation of multinational projects, especially after the unstable political circumstances of January 2011, (Khodeir, 2014).

The aim of this paper is thus to identify and investigate the types and root causes of risks embedded in multinational projects, starting from design initiation to design execution. In general, planning a construction project is the most important pillar of a successful project delivery, but, even with a well-planned strategy, errors and failures will arise. One of the most dangerous aspects in a project is the unpredictability and uncertainty of the project's environment. Influential environments can differ from unsuccessful delivery of design plans (design phase) to a sudden crash in market liquidity (construction phase) of some parties involved in the project. Here comes the role of Risk management, which is defined as a systematic way of identifying, analyzing and dealing with risks associated with a project with the aim of achieving the project objectives, (Patrick, 2007).

Multinational construction collaborations in the Middle East and North Africa (MENA) region in general, and Egypt in particular, have increased over the past few years, starting with joint ventures with Arabian Gulf countries, Japanese infrastructure collaboration and Scandinavian countries partnership projects. This imposes risks, such as differences in practices between domestic and foreign partners, policy and financial risks and legal and political risks. In addition to those risks, the inflation rate in Egypt is quite high: 10.2% (2015 CIA.) By the start of the new millennium, global markets became very dependent on political agendas, financial markets and social events. In order to minimize these impacts, project controlling is attained as proper tool that assesses and deals with risks and cultural aspects of these projects in their own environment. Figure (1) shows the number of annual Multinational projects, in Egypt, (MEED, 2014).

2 Introduction to Risk

The word risk was originally coined by the French, and was spelled as "risqué", then it was transferred to England in the 1830's, (Goral, 2007). Risk was primarily defined as a factor of caution, fatality or injury. Later on, the term was adopted by scientific bodies, and has finally been used to indicate uncertainty in projects, (Smith, 2006). The Australian/New Zealand standard on risk management, 2004, offered a more comprehensive definition for risk as "the chance of something happening that will have an impact on objectives; may have a positive or negative impact".

Moreover, Risk is perceived as the probability of unfortunate or unpredictable events occurring in a building project. These events can be predicted prior to occurrence and can be dealt with or managed; accordingly, the term "Risk management" was formed. Risk management is based on the fact that risk should be Identified and classified. A simple, common and systematic approach to risk management, suggested by Berkely (1991), has four distinct stages: risk classification, going through risk identification, risk assessment and suggesting suitable risk response.

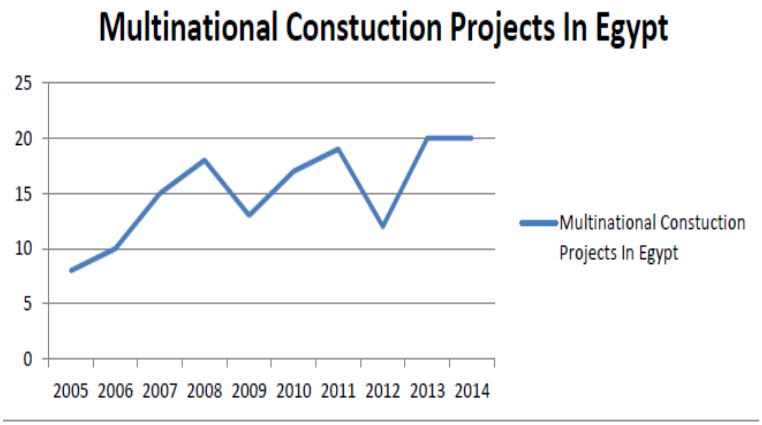

Figure 1. The number of annual multinational projects in Egypt (MEED, 2014)

2.1.1 Identification of Risk

Although the source of risk in multinational construction differs from one project to another, the steps and tools applied for identifying such factors of risk are the same. The first step in the process of risk identification is the risk realization in the building/design process. The next step is the classification of key factors, where root causes of risk are classified. Data concerning the risk identification must be gathered from documentations, expertise or feedback. Identifying risks could be performed by brainstorming sessions, meetings or external notifications, (Goral, 2007). The most widely used and most reliable risk identification tools include using the Delphi technique Interviewing, Root cause analysis, Checklist analysis, diagramming techniques and the SWOT analysis.

The Delphi technique, which is adopted in this paper, is based on a moderator, who is in charge of a session or round. These rounds consist of questionnaires handed to experts (Professional/Academic Experience) (Clarizen, 2013). These questionnaires are then gathered and summarized. Once again, the questionnaires are distributed among the experts for comments. This process can go on for more than several rounds until a solid opinion or model for identified risk factors is delivered at the end of the final session, (DOIS, 2003).

2.1.2 Classification of Risk

This phase of classification of risk factors is dependent on the former phase of risk identification, where gathered and identified risks are classified according to type, severity and impact. The process of risk classification notifies the responsible party whether this risk is affecting the project fulfilment in general or not, (Goral, 2007). According to Zhi (1995), risk factors in multinational construction projects are classified according to economic, political and social change. The most difficult political risks are: war, revolution, civil disorder and inconsistency of government policies, whereas economic and financial risks may arise from a local economic crisis, significant under-development interest rate fluctuations, rising inflation, foreign currency exchange rate fluctuations or raising tax rates. Social environment problems are most likely to be caused by language barriers, religious differences, cultural differences, crime and lack of security, disease, and bribery and corruption.

2.1.3 Risk analysis

This stage involves analysis of identified risks and their impact on upcoming project phases. Risk analysis techniques include both qualitative and quantitative tools. Qualitative risk analysis includes Risk probability and impact assessment (RPIA), the Probability and impact matrix and Risk urgency assessment. The quantitative risk analysis tools, on the other hand, include Data gathering and representation techniques, Probability distributions, Quantitative

risk analysis and modeling techniques, Sensitivity analysis, Expected Monetary Value analysis (EMV), Modeling and simulation, Cost Risk Analysis, Schedule risk analysis and Expert judgment, (Clarizen, 2013; DOIS, 2003).

2.2 Factors Affecting Project Failure

Approaching project failure factors is the best way to identify weak links and risks in a project's process. A survey was carried out by Whittaker (1999) to identify the main factor affecting project success. Questionnaires were given to over 1,450 private and public sectors' construction companies' .The outcome of the study was that unmitigated risks and lack of risk management strategies were the main reason affecting successful implementation of projects. The second and third attributes where lack of skilled labour and deficiency of control. (Whittaker, 1999; Rozene, 2006). Another study was carried out in Jordan by Odeh and Battanieh (2002), to identify the delays in construction companies. The main results found where lack of efficient managerial communication in the construction industry, as well as the high risks concerning contractors' efficiency of constructing the proposed designs (Odeh and Battaineh, 2002; Rozene, 2006).

2.3 Project Success and Risk management

Many researches were conducted in recent years, which were summed up by the project management body of knowledge in 2004. The results indicated Monitoring and controlling risk is an ongoing process in which known and identified risk are kept under supervision, old or outstanding risks are monitored and new risks are treated as soon as they arose (PMBOK, 2004). By adaptation of the previous protocol, any controlled risk in project – if dealt with accordingly – will lead to a successful project. Another research was carried out on 60 mega projects indicated that, by creating a reliable strategic risk management protocol, risk factors are minimized drastically (Floricel and Miller, 2001). The study guided by Miller and Lessard (2001) indicated that by establishing a well-designed risk plan, probability of failure due to risk is negligible.

2.4 Risk mitigation deficiencies in MENA

Al-Sabah (2012) conducted a detailed listing of the different risks affecting multinational design and consulting firms in the MENA, with an emphasis on the organizational point of view. The findings of that paper demonstrated the main risks affecting the MENA construction industry regarding internal and external risk factors affecting the efficiency of the project implantation process. One of the most important elements of the research was the increase of cultural risks that affected those projects, ranging from geopolitical uncertainty to conflicts in the design execution. Another sub-topic discussed was the lack of control over the design process risks, weak understanding of the user's needs, communication and cultural conflicts in the design process.

2.5 Risk Mitigation Deficiencies in Egypt

The study by Khodeir (2014) elaborates and examines different risks that affected the overall performance of the Egyptian construction industry over recent years. The paper shed light on the effects influencing the Egyptian market, foreign investment and multinational projects in the construction industry and how they were affected by risks that were not predicted or considered. The paper examined 65 external and internal risk factors that affected Egypt's construction industry between the years 2011 and 2013. The study was based on data collection and risk evaluation techniques. It was conducted on 100 (Local and Multinational) firms in Egypt. The results indicated that among the highest ranked risks (top 20), some were related to design management failures, Communication deficiencies, weak project control and other subsidiary branches of managerial systems that were mostly ineffective. All entities involved

in the construction market were involved and affected by these risks (clients, PMs, engineers and contractors).

3 Methodology:

In order to achieve the objective of this paper, the authors applied three main approaches: literature review of theoretical background, an interview and a survey questionnaire.

3.1 Interview

The interview was held In March 2015 with the former director of the committee for implementation of the Grand Egyptian Museum (GEM) (2009-2012). Table (1) shows the design of the interview questions and their related objectives.

Table 1. Design of the interview

Question	Objective/measured attribute
What were the risks affecting the early stages of the design and design execution?	To attain the maximum amount of knowledge regarding risks affecting the design phase from design initiation to design execution
What were the main risks that were the result of not understanding the Cross-Cultural nature of the project (Design, Contracts, Bidding, Tenders, laws and Conflicts)?	To establish a link between risk affecting design projects in a multinational project scale
What were the problems generated due to the lack of proper risk assessment in the GEM in particular and the Egyptian market in general?	To highlight the deficiencies regarding risk management to form a well-designed risk register
What were the financial risks of the project with regards to funding and contracting?	To understand and measure how the financial risks affect a project of this scale
What were the Owner's risks?	In the GEM case study the owner is a governmental entity, which is a major factor affecting project success
What are the futuristic risks of the entire GEM project?	To ensure a realistic nature of probability regarding the risk register
What are the problems facing the design's constructability?	To highlight design problems directly affecting the constructability of the project

3.2 Delphi Panel

The Delphi panel consisted of 16 participants, including the former director of the committee for implementation of the GEM, along with another three top managers in the GEM project. Two participants were from Hill international; they are current project managers in the GEM project. One project manager was from Orascom Constructions, currently working on the GEM project. The other nine participants included three Project managers from Kuwait, whom were a part of mega and iconic projects in the Middle East and Europe. Three participants were from Canada (Two Architects and an Owner), two from UAE (Project Manager and Architect) and one from the UK (Architect). The seven Delphi participants from Egypt were directly provided with a hard copy of the data, whereas the international participants were provided with the information electronically via E-mail. The Interview notes were presented to the panelist on the first round, the final risk register included 73 Risks. After gathering the first round results and refining them, the Risks were reduced to 67. The new risks were then sent again to the panelists for further editing and commenting. The results were collected for the final time and the comments the participants provided were noted. Finally, a list of 60 Risks was ready for further testing for probability and impact Via Survey questionnaire, Table (2) shows sample participants in the Delphi panel.

3.3 Survey Questionnaire

A questionnaire survey was conducted in order to measure both impact and probability of risks that were previously defined through the Delphi panel. A scale was presented for each risk with a numeric range of 1 to 9, where the probability took a range; 1 means that this risk is unlikely to occur and 9 means that the risk will certainly occur. Impact also ranged from 1 to 9, where 1 was given to risks having minimal effect, while 9 was given to risks having the severest impact. A total of 40 participants were requested to fill the survey, all of whom complied. The original Delphi panellists were also among those who conducted the survey. The participants belonged to different countries, genders, ages, expertise and educational background. The detailed information about the participants is indicated in Table (3).

4 Analysis of Pilot Case Study: The Grand Egyptian Museum, Giza, Egypt (In process)

The Grand Egyptian Museum Project was inaugurated by the former Egyptian President, Hosni Mubarak, on Feb 4th, 2002. It is Egypt's largest Cultural and iconic Project. It is planned to replace the original Egyptian Museum located in Tahrir square. It is intended to display the World's largest collection of Pharoanic Artifacts representing the evolution and ingenuity of the Ancient Egyptian civilization. The GEM is located at the outskirts of the ancient culture plateau of the Pyramids. It is designed on a gentle slope with a view to the Pyramids as well as a view towards the city of Cairo. The area of the project is about 493,579m² and occupies a total of 181,438 m² in built up area (Barakat, 2010).

4.1 Description of GEM timeline

In 2002 the Head of Architecture department of Ain Shams University was assigned by the Ministry of Antiques and Ministry of Culture to form a committee for selecting a design for the newly proposed project of building a new Egyptian museum; a museum that will be a new iconic destination for displaying ancient Egypt's historic eras and artefacts .The idea of creating a new Egyptian museum was extremely welcomed and supported by the UNESCO. A competition was formed later on in 2002 to select the best possible design for the proposed project. A total of 2300 entries were made, 700 of which were then eliminated and 1600 were left. Out of the remaining participants, 20 designs were selected for the final rounds. A jury was formed of the best architects in Egypt and the international architectural community was to select the top 3 designs. The First Prize was the Construction of the design and $250,000 (Barakat, 2015). In 2003 a preliminary project plan was offered, including the entire project's scope, from schematic design to project completion. A three-phased plan for project design and execution was proposed and an initial budget of 550 Million$ was projected. Phase I: Project studies; Phase II: Fire station, Conservation centre and Energy Centre; Phase III: Site excavation and project execution. (M.Antiques, 2015).

- **100 million dollars were provided by the** Egyptian government by "The Museums and Archeological Projects Fund";
- **300 million dollars were provide by** JICA "Japan International Corporation Agency" in the form of a facilitated loan;
- **150 million dollars were obtained from different fund-raising agencies**.

In 2005 the project scope rose from 550 to 800 million dollars. This was due to project scale and complexity, where a number of buildings which were not intended in the original project were added to the project. Additionally, there were complexities in transporting some monuments and antiques to the location of the museum. Funds were collected from various cultural philanthropists, (Barakat, 2015). In 2009 the design documentation was delivered and initial site excavation began. The year 2011 had great impact on the project's performance due

to the unrest in Egypt as a side effect of the revolution that took place, which gradually returned back to normal in 2012. In April, 2015, The Committee announced that further 300 million dollars were required to complete the project, which increased the overall projects' budget to reach 1.1 Billion dollars (Ayad, 2015). Table (4) shows both planned and actual timeline for the GEM.

Table 2. Participants in the DELPHI Panel

Age	**Percentage**
30-40	18.75%
40-50	37.5%
≥50	43.75%
Total	100%
Country	**Percentage**
Egypt	37.5%
Kuwait	25%
UAE	12.5%
UK	12.5%
Canada	12.5%
Total	100%
Highest Education	**Percentage**
Bachelors Degree	37.25%
Masters Degree	37.25%
Doctorate Degree	25%
Total	100%
Field of Experience	**Percentage**
Architecture/Architectural	37.75%
Engineering (Senior)	31.25%
Project Management (Design and Construction)	31.25%
Top Management (CEO, CFO, COO, etc)	100%
Total	
Years of Experience	**Percentage**
15-25	25%
25-35	43.8%
≥35	31.2
Total	100%

Total: 16 Participants

Table 3. Participants in risk survey

Age	**Percentage**
30-40	30%
40-50	30%
≥50	40%
Total	100%
Country	**Percentage**
Egypt	42.5%
Kuwait	22.5%
UAE	12.5%
Canada	10%
UK	7.5%
KSA	5%
Total	100%
Highest Education	**Percentage**
Bachelors Degree	47.5%
Bachelors Degree	25%
Postgraduate Degree	10%
Masters Degree	17.5
Doctorate Degree	
Total	100%
Field of Experience	**Percentage**
Architecture/Architectural	37.75%
Engineering	31.25%
Construction/Civil Engineering	31.25%
Project Management (Design and Construction)	
Top Management (CEO, CFO,COO, etc)	100%
Total	
Years of Experience	**Percentage**
15-20	12.5%
20-25	35%
25-35	27.5%
≥35	25%
Total	100%

Total: 40 Participants - 40 / 40 Respondents

Table 4. A brief of GEM phase completion (Actual and planned)

Year	Planned Phase Completion	(Planned) % Completed	Actual Phase Completion	(Real) % Completed
2002	Design selection	10	Design selection	10
2003	Design Preparation	20	Design Preparation	20
2004	Design Preparation	30	Design Preparation	20
2005	Design Delivery	35	Design Preparation	20
2006	Site Excavation	40	Design Preparation	20
2007	Site Excavation	50	Design Preparation	20
2008	Construction Initiation	60	Design Preparation	20
2009	Construction Progress	70	Design Preparation	30
2010	Construction Progress	80	Design Delivery	40
2011	Construction Progress	90	Site Excavation	45
2012	Project Completion	100	Site Excavation	50
2013		100	Construction Initiation	60
2014		100	Construction Progress	70
2015	New extension in project completion	100	Construction Progress	80
2016		100	Construction Progress	90
2017	New extension for project completion	100	Construction Progress	95
2018		100	Project Completion (Estimated)	100

5 Findings

Findings presented in this section are extracted from the interview. The Risk register developed using the Delphi panel and the findings of the survey questionnaire. Findings of the interview formed a base for the Delphi panel that was applied later on. These findings were carefully analyzed in order to create a well-structured risk register. The initial register included 78 risks, whereas the final refined register after applying the Delphi panel included 60 risks. The Final Risk register, shown in table (5), identifies the 60 main risks that emerged in the case study project according to both the interview and the Delphi panel. The table offers description of each type of identified risk, the nature of its impact, either positive or negative, and its root cause. A coding system is suggested for the Classification of the risks, in order to facilitate the understanding of root causes of risk and help establishing a relevant mitigation approach. The classification was based on two main factors:

- The source of Risk/emerging phase: Design=D, Executive=E, Legislative=L, Governmental=G, Socio-Political=SP
- The impact of Risk/ Influence on involved parties or phases: Consultants and Contractors=C, Owner=O, Design Execution=DX

The risk register was passed afterwards to the respondents of the questionnaire survey to measure the exact Expected Monetary Value (EMV) of each detected type of risk. In this section, the findings of the questionnaire survey were presented. These included the probability and impact results of each type of the top-identified risks. Results were displayed in terms of Mean, Median and mode ranking. Figure (2) and figure (3) respectively represent the

probability and impact results of each top-identified risk. Table (6) presents the final expected monetary value EMV, which represents the total outcome of the risk, whether it has a positive or negative impact depending on the situation. The table arranged risks from highest risk to lower risks, driven by the results received from applying the EMV equation in Risk.

(EMV): Risk = Probability × Impact.

5.1 Highly Ranked Risks

Upon observing the highly ranked risks and remarking risk nature, it appears that legislative risks in general were considered to be a major setback in multinational collaborations, according to the survey participants. They were also drastically affecting the GEM project. Table (6) highlights the top-ranked risks. Table (7) shows the top root causes of risk according to analysis and their related phases of the project. It emphasizes the fact that most top risks are related to decisions made in the design phase.

Table 5. Sample of the Risk Register

#	*Code*	*Risk Description*	*Nature of impact*	*Root Causes*
1	D-1-DX	Design Selection	Positive	UNESCO-sponsored Competitions for GEM Design Selection
2	D-2-DX	International Expertise in Design and Execution	Positive	Joint Funding Venture (Egypt, Japan) Multinational Collaboration (Egypt, Japan, UK, Ireland, Belgium, US)
3	L-1-O	Failure to sign with desired design firm	Negative	Law 89-1998 For Bids and tenders does not consider design competitions as a legit bid or tender which is the only allowed form of contracting (Government contract)
4	L-2-O	Law restrictions	Negative	
5	D-3-O	Law restrictions affect design quality.	Negative	Law 1998-98 For Bids and tenders -Article 16- two committees are formed (Technical and Financial) to study offers in both criteria and the preferable selection is mainly to the lower cost
6	L-3-O	Direct Order (Ministry Funding)	Positive	Law 89-1998 For Bids and tenders - Article 7 - Senior State officials are entitled a direct order of a (limited) governmental fund spending in critical situations.
7	E-1-C	Lack of complex project management knowledge	Negative	Former directors (Early Design stage) lacked proper project management skills.
8	D-4-DX	Lack of Client experience in complex Design projects	Negative	Due to the fear of failure, social and political pressure, the Minister of Culture broke down the design contract into 4 phases which resulted in 2.5x increase in design cost
9	SP-1-DX	Design Contract Break Down	Negative	Competition won in 2002, Design Delivered 2009 (8 years), delivery scheduled (3-4 Years)
10	G-1-DX	Design delivery delay due to misconduct in contracting	Negative	Delay In design Delivery means delay in Construction initiation (Penalty Clause is applicable) Must be paid by client to Assigned firms.

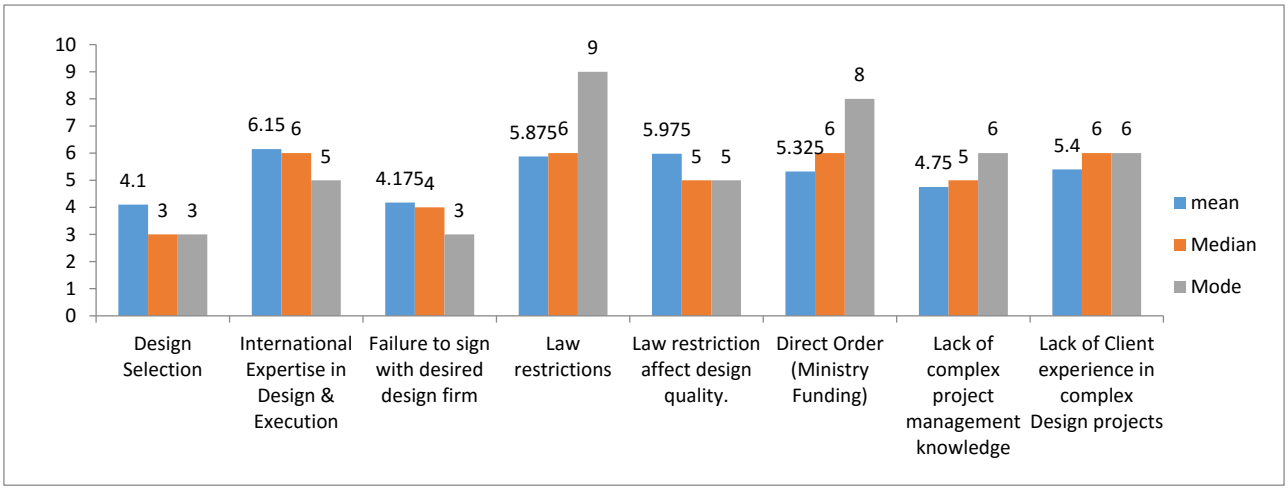

Figure 2. Findings of Risk Probability

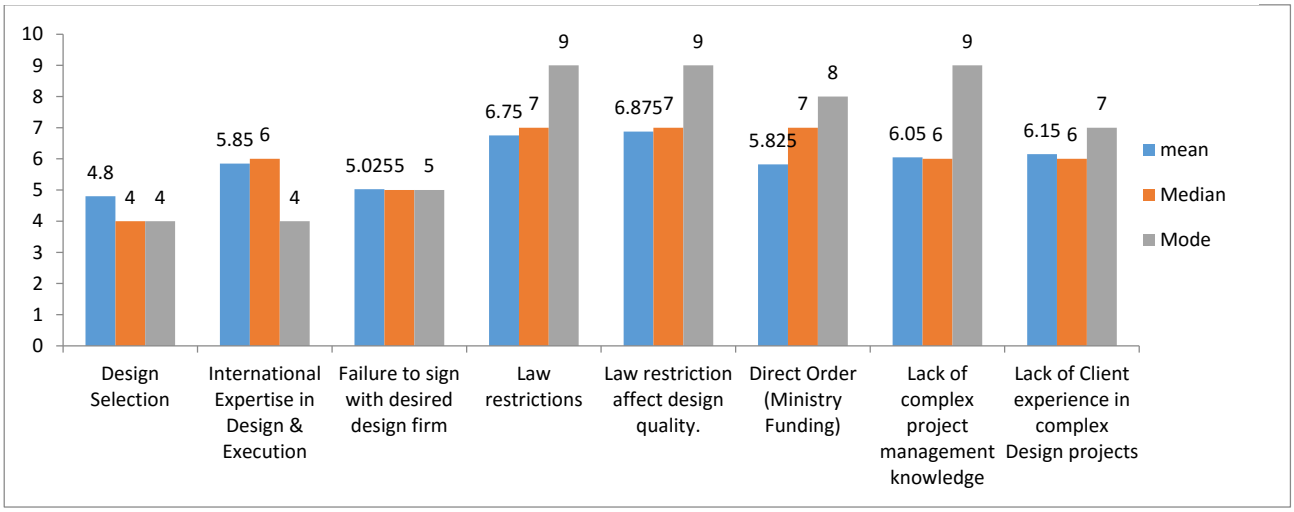

Figure 3. Findings of Risk Impact

Table 6. Top-ranked risks

Rank	Code	Risk	Risk Nature	Effect	T Variance	Total SD	EMV
1	L-5-DX	Egyptian law does not recognize the project management profession (Government Contracts)	Legislative	Negative	**3.438639063**	**0.085966**	**0.61992284**
2	D-3-O	Law restrictions affect design quality	Design	Negative	**7.316951563**	**0.182924**	**0.507137346**
3	L-2-O	Law restrictions	Legislative	Negative	**8.206826563**	**0.205171**	**0.489583333**

Table 7. Top causes and phases of emergence of risk

Source of risk /emerging phase		Impact of risk	Description	EMV
Design	D-3	O	Law restrictions affect design quality.	0.507137
Executive	E-18	O	Unplanned mitigation actions (Management)	0.446142
Governmental	G-10	O	Mistrust (Bidders)	0.425995
Legislative	L-5	DX	Egyptian law does not recognize the project management profession (Government Contracts)	0.619923

5.2 Risk Perception

In this section, a comparison is made among the top 10 risks, according to the perception of Egyptian participants and the international participants. This will allow for a comprehensive understanding of the different points of view. Moreover, this will ease the process of extracting similarities and differences in types of risks affecting both the local and the international construction market, Table (8), where it is clear that the top three risks according to both international and National perceptions are restrictive laws and policies which affect design quality and, in turn, banish experts in management disciplines in the construction market. Both local and international communities are suffering from currency fluctuation.

Table 8. Top national/international risks in Multinational Projects

	INTERNATIONAL EMV		EGYPT EMV	
#	**RISK**	**EMV**	**RISK**	**EMV**
1	Egyptian law does not recognize the project management profession (Government Contracts)	0.639781	Egyptian law does not recognize the project management profession (Government Contracts)	0.607289
2	Law restrictions affect design quality.	0.512757	Law restrictions affect design quality.	0.503704
3	Law restrictions (Egypt)	0.469081	Law restrictions (Egypt)	0.501412
4	International Expertise in Design and Execution	0.433251	Involvement of military contracting	0.480632
5	Unplanned mitigation actions (Management)	0.405322	Design Contract Break Down	0.47759
6	Mistrust (Bidders)	0.396433	Lack of Client experience in complex Design projects	0.475457
7	Limiting exposure to international innovations (Design and Construction)	0.39177	Unprofessionalism (Client)	0.474252
8	Increasing efficiency by increasing monetary reward (Client)	0.39177	Unplanned mitigation actions (Management)	0.471467
9	Involvement of military contracting	0.387106	Opportunity for corruption	0.461906
10	Currency Fluctuation	0.377778	Currency Fluctuation	0.459378

6 Conclusions

This paper sheds light on the inefficiency of planning, monitoring and controlling processes of risks that deal with the different aspects of cultural variances in the present construction industry. This in turn affects the work flow communication among involved parties due to lack of proper preparation and management in different categories.

Upon viewing the current practices of risk management and examining the failures of delivering successfully planned project in the modern construction industry in the MENA region, it is clear that these factors affect the planning, controlling and implanting of successful construction projects. These projects are influenced by a diverse spectrum of risks. These risks are mainly the result of two main deficiencies: lack of adequate cultural knowledge and poor prediction and planning of process risks. Regarding the Egyptian context and the top occurring risks in Multinational projects, findings of this paper show that a number of corrective actions should be adopted, including:

- Review and modification of law 89-1998, which represents a major setback for future Multinational collaborative projects, as it limits the competitiveness of quality and emphasis of quantity.
- Multinational collaborative projects buildings need special consideration in terms of bidding and tendering as the selection process should be based mainly on quality of provided work.
- Project management profession must be acknowledged by the Egyptian law: their roles and responsibilities should be set by the policy makers in order to avoid any conflict with the law.
- The construction industry in Egypt needs robust supervision to eliminate abuse of power and position.
- Flexibility when assigning International ventures to benefit the country both financially and knowledge-wise.

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