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# INVESTIGATING KEY DRIVERS FOR CONTRACT TERMINATION IN CONSTRUCTION PROJECTS IN THE GAZA STRIP

**Alaa A. El Karriri [1], Mohammed Yasin [2], Abdulaziz Alhabeel [3]**

**1:** Eng. and Con. Services Department, UNRWA, Palestine a.el-karriri@unrwa.org

**2**: B. Sc Civil Engineer, eng.m1987@hotmail.com

**3**: B. Sc Civil Engineer, abed2099@hotmail.com

**Abstract:** The construction industry is considered the economical backbone in many countries overall the world. It has unique characteristics that sharply distinguish it from other sectors. The fragmental characteristics and high sensitivity to the economical and political environment make this industry influenced significantly to the of business failure. One of the key drivers to the construction projects failures is the occurrence of contract termination. This phenomenon will negatively affect the sustainability of the construction projects and is expected to cause loss in time, cost and efforts for all parties operating in the construction projects. The aim of this study is to investigate the key drivers for contract termination in the construction projects in the Gaza strip. The research is extended to provide the critical success factors (CSF's) leading the occurrence of contracts termination. Highlighting these factors is expected to mitigate the barriers affecting projects success and sustainability. The objective of this research was investigated throughout a postal questionnaire. Fifty one (51) contractors operating in the construction industry in the Gaza strip and classified under the five building categories i.e. ($1^{st}$, $2^{nd}$, $3^{rd}$, $4^{th}$, and $5^{th}$) were covered. The questionnaire was structured and designed based on the related literatures, pilot study and the actual terminated cases arising from special conditions in the Gaza Strip. The results show that the political related factors and clients' related factors like (Israel invasion, Imposed closure at Gaza Strip, clients insolvent, clients' bad financial situation, and location of some projects at hot regions) were shown as a part of the critical drivers for contract termination in construction projects. The findings in this research provide practical recommendations for clients operating in the construction projects to exert huge efforts to attain internal continuous improvement. The study also provides an alarm to the world community to break the siege at the Gaza strip. All parties operating in this industry expected to benefit from this results.

**KEYWORDS:** Contract Termination, Contractor, Gaza strip, construction industry

## استقصاء الدوافع الرئيسية المسببة لإنهاء العقود في مشاريع الإنشاءات في قطاع غزة

**الملخص**: تعتبر صناعة الإنشاءات العمود الفقري للاقتصاد في كثير من بلدان العالم. حيث تتميز

صناعة الإنشاءات بخصائص فريدة تميزها عن القطاعات الأخرى.وتعتبر حساسية مشاريع الإنشاءات المرتفعة للبيئة الخارجية من ظروف اقتصادية و سياسية جعلت كثير من الأعمال في هذه المشاريع عرضة بدرجة عالية للفشل. إن ظاهرة إنهاء العقود الإنشائية واحدة من العوامل الرئيسية المؤدية لفشل مشاريع الإنشاءات.وتعتبر ظاهرة إنهاء العقود الإنشائية من الأمور المؤثر سلباً على استدامة مشاريع الإنشائيات الذي بدوره قد يؤدي الي خسارة في الوقت والتكلفة والجهود المبذولة لجميع الأطراف العاملة في مشاريع البناء. تهدف هذه الدراسة إلى التحقق من الدوافع الرئيسية المسببة لإنهاء العقود في مشاريع الإنشاءات في قطاع غزة.كما تقدم الدراسة العوامل الحرجة التي قد تؤدي لحدوث إنهاء العقود في مشاريع الإنشاءات.ومن المتوقع أن تقديم هذه العوامل سيؤدي لخفض التأثيرات السلبية التي قد تؤثر في نجاح واستدامة المشاريع. تم تحقيق أهداف الدراسة من خلال طريقة الاستبانة. استهدفت الدراسة واحد وخمسون (51)من المقاولين المصنفين في اتحاد المقاولين الفلسطينيين تخصص (أبنية) في الفئات (1 ، 2 ، 3 ، 4 و 5 ). تم تصميم الاستبيان على أساس الدراسات ( الأدبيات) ذات الصلة بالإضافة الى دراسة مسحية للتعرف على أهم العوامل الفعلية خاصة في قطاع غزة والتي قد تسبب إنهاء العقود. أظهرت النتائج أن العوامل السياسة والعوامل المتعلقة بالمالكين لمشاريع الإنشاءات مثل (الحصار المفروض على قطاع غزة ، إفلاس المالك ، الوضع المالي السيئ للمالك، وموقع لبعض المشاريع في المناطق الساخنة) تعتبر من المسببات الحساسة المؤدية لإنهاء العقود في مشاريع الإنشاءات. ان نتائج هذا البحث تساهم في تقديم توصيات عملية للعاملين في مشاريع البناء إلى بذل جهود ضخمة لتحقيق التحسين المستمر على المستويات الداخلية. كما تقدم الدراسة أيضا تنبيه للمجتمع الدولي لرفع الحصار على قطاع غزة. كما يتوقع أن تقدم هذه الدراسة إضافة مميزة لجميع الأطراف العاملة في قطاع الإنشاءات.

**الكلمات المفتاحية**: إنهاء العقود ، المقاول ، قطاع غزة ، صناعة الإنشاءات.

## 1. INTRODUCTION

The construction industry in Palestine was one of the leading sectors that achieved high rates of economic growth in the 1970s and up to the mid-1980s. During that period of time, the contribution of this sector has increased in terms of providing job opportunities for the Palestinian labor force and the generation of local production. Since then, this sector has been subjected to many setbacks which have decreased its role in building up the Palestinian economy in contrast with its counterparts in many developing and neighboring countries [1].

Throughout recent years the construction industry has witnessed an increasing number of construction financial failures [2]. The construction industry generally has a bad reputation for its work. The industry has a reputation for time and cost overruns [4]. In the Gaza Strip, there is

evidence that the number of contractor's failure is increasing rapidly [5]. The result of projects failure is expected to either terminate or suspend the projects which lead to large losses, dispute and claims [1]. Enshassi and Abu Mosa [5] showed that the external risk led to large losses in construction sector and termination of most projects during the Al-Aqsa Intifada. Iyer et al [6] found that the very important clause that leads to disputes in construction contracts is termination of contract. Termination of contracts can be defined as ending the contract work with no intention of resuming it in the foreseeable future [7]. Loulakis and Satiago [8] showed that termination is usually perceived as a remedy of last resort. Kerzner [9] explained that each project must stop. Termination must be planned so that the impact can be identified.

Most of construction projects in the Gaza Strip are exposed to the contract termination since the Israeli siege on June 2007 which causing loss of project's profit, increasing cost and leading to managerial and technical problems between project's parties; so the research is designed to investigate the key drivers/factors affecting contract termination, besides the study will be extended to highlight the critical drivers/factors leading the contract termination. This study will provide powerful contribution towards a sustainable success of construction projects. The benefit could be extended for the decision makers operating in the construction industry to mitigate the negative impact of the contract termination factors at the projects sustainability and success.

The sections in this paper are organized to better preset useful information and background about the significance of studying termination of contracts in construction projects. Following, the introduction, the next section provides reviewing the literatures related to contracts termination in the construction industry including factors affecting contracts termination. The research methodology is then presented followed by the discussion of the research results and findings. Conclusion and recommendations are presented finally.

## 2. LITERATURE REVIEW

Enshassi and Abu Mosa [5] showed that the construction industry is a key activity in any economy, it influences and is influenced by the gross domestic product (GDP) of any country. The construction sector is one of the key economic sectors and is the main force motivating the Palestinian national economy. Ogunlana and Sysavath [10] illustrate that construction work in many developing countries (such as Palestine) suffers from

administrative and a locative inefficiencies. Because of a lack of sound framework of institutional and legal arrangements, especially those affecting public sector procurement, the industry is not shaped to respond quickly and efficiency to the client's needs. Enshassi et al. [1] stated that, business failure, collapse and bankruptcy are common terms in the industry due to the many risks inherited in how the industry operates. Throughout the world, the relative ease of entry gives rise to a large number of contracting firms competing fiercely in the market exposing many of them to business failure, Palestine is no exception

## 2.1 KEY DRIVERS FOR CONTRACT TERMINATION

Contract termination is a natural phenomenon in the construction industry. Termination refers to contract work that will be ended or concluded with no intention of resuming in the foreseeable future. It requires written procedures to protect the interests of the client and the contractor. To be fair, procedures must make provision for the contractor to recover actual direct costs for work completed, material purchased but not installed, additional work required by the termination directives, and overhead and profit for such expenses [7].

Client generally has right to terminate a contract for default if the contractor is guilty of a material breach. Ground for default termination can include a contractor's failure to furnish properly skilled labor or perform the work within an allotted time frame. Because termination for default is a drastic remedy, many contracts require a client to first issue what is called a cure notice to a contractor. This notice provides the contractor with a reasonable opportunity to remedy deficiencies in its work to avoid termination. Parties should not simply fall back on their general understanding of industry convention in assessing their contractual rights and obligation [8]. NCB for Civil Works [11] showed that the clients is responsible for the excepted risks which they directly affect the execution of the works in the client's country, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive. Bremen [12] illustrate that clients don't want to be in a position where its contractor terminates but it is obligated to keep its off take/sales obligations on foot (admittedly suspended but with the possibility that the force majeure event may abate without the client being in a position to perform).

## INVESTIGATING KEY DRIVERS FOR CONTRACT

Spirer [13] addressed project termination as consisting of two broad types: first, a natural termination when the project goals have been met, and second, an unnatural termination when some project constraints have been violated, performance is inadequate, or the project goals are no longer relevant to some overall needs. Cleland and Ireland[14] showed that termination of failed project comes about for several reasons such as; project cost overrun, failure to attain the targeted objectives, client's strategy has been changed such that the project no longer has a strategic fit in the client organization's future, project's champion has been lost, thereby putting the continued application of resources on the project in doubt, Environmental changes have emerged which adversely influence the project's future and advances in the state of the art hoped for in the project (such as in research and development) have not been realized, and therefore further funding is not forthcoming.

Al-Hallaq [4] divided factors that cause failure to contractors in the Gaza Strip into five types: managerial, financial, expansion, environment and political factors. Enshassi et al. [1] found that the main causes of business failure are delay in collecting debt from donors, border closure, heavy dependence on bank loans and payment of high interest on these loans, lack of capital, absence of industry regulations, low profit margin due to high competition, awarding contracts by clients to the lowest bidder, and lack of experience in contract management. The main result of the failure is ending the projects and terminating the contracts which lead to large losses. Al-Hallaq [4] showed that during Al-Aqsa Intifada, Palestinian construction companies have traditionally complained delay in collecting debts from donors as a direct impact of local business political environment. The direct impact of crossings closure is a drop in productivity on Palestinian economy, income, introducing a more strict policies and regulations of banks and suppliers, and monopoly as a result of lack in resources. High costs of materials, lack of resources and limitations on importing are a result of closure of the Gaza Strip. The results showed that the political sub-factors to be the most sever causes of contract's failure and end projects in the Gaza Strip.

Enshassi and Abu Mosa [5] recommended that tenders should be awarded to accurate estimated cost and not necessarily to the lowest bidder. This could take the edge of high competition in bids and reduce risks' consequences by providing more profit margins for contractors. The contract clauses should be modified and improved to meet the impact of closure of Gaza Strip and

not to allocate the whole impacts on the contracting companies. Clients should conduct continuous training programs with cooperation with Palestinian Contractor Union (PCU) to advance managerial and financial practices to explain the internal and external risk factors affecting the construction industry and to initiate the proper ways to deal with such factors. On other hand the external risk led to large losses in construction sector and termination of most projects during the Intifada.

Although the contracts could be terminated, it will be effective to plan the termination process aiming to mitigate the losses as possible. Archibald [15] suggested some comprehensive checklists as aids in planning and controlling the work necessary to terminate a project. And concludes that there are benefits of using such checklists to indicate clearly the closeout functions and responsibilities, reducing ambiguity and uncertainty, reduce overlooking of important factors, Permit closeout progress to be monitored, Aid project team members with little or no experience in closing out a project, Inform project team members about the activities of others during the closeout phase. Kerzner [9] explained that termination must be planned so that the impact can be identified. Planning for project termination includes: transferring responsibility, completion of project records, historic reports, post project analysis, documenting results to reflect "as built" product or installation, acceptance by sponsor/user, satisfying contractual requirements, releasing resources, reassignment of project office team members, disposition of functional personnel, disposition of materials, closing out work orders (financial closeout) and preparing for financial payments.

## 3. RESEARCH METHODOLOGY

Naoum [16] defined the research methodology as the way in which the research objectives can be questioned. Two types of research strategies are used at studies, quantitative and qualitative research. In this research, the qualitative approaches were used to investigate the key drivers affecting contract termination in construction project. The population of this research included contracting companies that are classified under the Palestinian Contractors Union (PCU) as a building category in Gaza Strip. Based on the PCU recent list in Septembers 2008, the size of population for the five classes that classified under building category is (206) companies. The sample size and the response rate for each category of contractors were calculated to reflect higher reliability and benefits for the study. The target population was distributed between the fifth classes and the five locations of

$$n = \frac{n'}{\left[1 + \frac{n'}{N}\right]}$$

the Gaza strip as shown in Table1. Several studies such as [17-21] used this equation to determine the sample size,

Where: (1)
n: sample size from finite population, equal (**72**) contractors
n': is the sample size from infinite population, which can be calculated from this formula [$n' = S^2/V^2$]. The definitions of all variable can be defined as the following:
N: Total population (206 contractors).
V: Standard error of sample population equal 0.05 for the confidence level 95 %.
$S^2$: Standard error variance of population elements, $S^2 = P(1-P)$; maximum at P= 0.5.

**Table (1): The geographical arrangement of the sample size for the five building categories**

| Location / Class | South Area | Middle Area | Gaza City | North of Gaza | Total |
|---|---|---|---|---|---|
| First class | 6 | 1 | 12 | 1 | 20 |
| Second class | 7 | 2 | 13 | 2 | 24 |
| Third class | 4 | 3 | 5 | 1 | 13 |
| Fourth class | 1 | 2 | 2 | 1 | 6 |
| Fifth class | 2 | 2 | 4 | 1 | 9 |
| Total | 20 | 10 | 36 | 6 | 72 |

Fifty one (51) contractors responded out of the seventy two. Moser and Kalton [22] showed that, for the most postal questionnaires, the response rate is normally attracting return rates of between 20-30%. Based on this, the response rate of 70% is reasonable and will reflect good results and outputs.
The questionnaire was organized to include five groups of drivers/factors affecting contract termination in the construction projects e.g.(contractors related factors, clients related factors, external environmental related factors,

political related factors, and project characteristics related factors). A likert scale (agreement scale) questions were used to rank the key drivers/ factors affecting contract termination. The respondents were asked to give their perceptions in group of questions on five-point scale (1, for strongly disagree to 5 for strongly agree), which reflects their assessment regarding the factors affecting bidding process.[16,18,19,20,23] used the following equation to computed the importance index:

$$\text{Relative Importance Index} = \frac{\sum w}{AN} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2}{5N} \quad (2)$$

Where W is the weighting given to each factor by the respondent, ranging from 1 to 5, (n1 = number of respondents for Strongly disagree, n2 = number of respondents for disagree, n3 = number of respondents for neutral, n4 = number of respondents for agree , n5 = number of respondents for strongly agree ). A is the highest weight (i.e. 5 in the study) and N is the total population. The relative importance index ranges from 0 to 1.

Six contractors were piloted to examine the validity of the questionnaire instrument and to add, omit or modify any question to achieve the targeted objectives in this study. In general, few comments and some modifications were done. The reliability of this research was cheeked throughout Cronbach's Alpha test. The value for this test was shown as (0.924) which reflect high reliability of the obtained results.

## 4. RESULTS AND DISCUSSION

### 4.1 FACTORS RELATED TO CONTRACTOR

This group includes nineteen factors related to the contractors that may cause contract terminations The factors shown in Table 2 illustrated the respondents perspectives regarding the importance of factors affecting contract termination in construction projects.

**Table (2): Ranks of contractor's related factors affecting on termination projects**

| No. | Sub-factor | Mean | I.I. | Rank |
|---|---|---|---|---|
| 1 | Contractors bankrupting or insolvent | 3.941 | 78.82 | 1 |
| 2 | Contractors Negligence | 3.804 | 76.08 | 2 |
| 3 | Lack of financial capability. | 3.686 | 73.73 | 3 |
| 4 | Superficial study of tender document | 3.667 | 73.33 | 4 |
| 5 | Fraud in materials or quality. | 3.647 | 72.94 | 5 |
| 6 | Lack of experience in the line of work. | 3.569 | 71.37 | 6 |
| 7 | The increase in capital expenditures for company. | 3.471 | 69.41 | 7 |
| **No.** | **Sub-factor…*follow ( Table 2)*** | **Mean** | **I.I.** | **Rank** |
| 8 | Lack of technical and managerial skills for contractor staff. | 3.392 | 67.84 | 8 |
| 9 | Dealing with variation order. | 3.314 | 66.27 | 9 |
| 10 | Lack of labor productivity. | 3.294 | 65.88 | 10 |
| 11 | Lack of experience of sub-contractors. | 3.294 | 65.88 | 11 |
| 12 | Lack or absence of project risk control from the contractor. | 3.216 | 64.31 | 12 |
| 13 | Delay or refusal to do some activities which requested by the client. | 3.157 | 63.14 | 13 |
| 14 | The contractor has no objective in the project or it is limited to making profit. | 3.137 | 62.75 | 14 |
| 15 | Bad relationship between the contractor and sub-contractors. | 3.098 | 61.96 | 15 |
| 16 | Low margin of profit. | 3.078 | 61.57 | 16 |
| 17 | Strongly rely on bank loans and payment of high interest on these loans. | 3.039 | 60.78 | 17 |
| 18 | Contractor overload with projects. | 2.941 | 58.82 | 18 |
| 19 | Leak of adopting new technology and computers applications. | 2.627 | 52.55 | 19 |

The average important index I.I. of "Contractor" group = $\sum$ I.I. of factors /no. of factors

= 1267.5/19 = 66.71%.

The results indicate that "Contractor bankrupts or insolvent" (company liquidation) was shown the first position as an important factor causes contract termination in construction project with II of (78.82). "Contractors Negligence" is ranked in the second positions with II of (76.08). "Lack of financial capability" was shown in the third position with II (73.73) while the "Superficial study of tender document" was ranked in the fourth position with II of (73.33). These results matched Enshassi et al [1] who found that the Contractors Negligence is a critical factors driving business failure, and

with a relative important index of (78.2%). The contractors believed that "Contractor overload with projects" and" Leak of adopting new technology and computers applications" are not considered an important factors that may lead to contract terminations in construction projects.

### 4.2 FACTORS RELATED TO CLIENTS

This group includes sixteen factors related to the clients that may cause contract terminations.

**Table (3): Ranks of clients' related factors affecting on contracts termination**

| No. | Sub-factor | Mean | I.I. | Rank |
|---|---|---|---|---|
| 1 | Clients becomes bankrupt or insolvent | 4.196 | 83.92 | 1 |
| 2 | Lack of financial capabilities of the clients. | 4.137 | 82.75 | 2 |
| 3 | Client's policy for compensation, and mainly under force majeure conditions. | 4.000 | 80.00 | 3 |
| 4 | Award contract to the lowest price. | 3.902 | 78.04 | 4 |
| 5 | Lack cash flow management. | 3.804 | 76.08 | 5 |
| **No.** | **Sub-factor… *follow ( Table 3)*** | **Mean** | **I.I.** | **Rank** |
| 6 | Wrong estimation for the total cost of the project. | 3.784 | 75.69 | 6 |
| 7 | Client delay in the contractor financial payments. | 3.686 | 73.73 | 7 |
| 8 | Wrong estimation for the total time of the project. | 3.667 | 73.33 | 8 |
| 9 | Great number of variation orders done by the client. | 3.510 | 70.20 | 9 |
| 10 | Lack of technical and managerial skills of client staff. | 3.412 | 68.24 | 10 |
| 10 | Weak project management. | 3.412 | 68.24 | 10 |
| 12 | Lack of using qualified consultants. | 3.373 | 67.45 | 12 |
| 13 | Client policy in resolving the claims, disputes and litigations. | 3.353 | 67.06 | 13 |
| 14 | Lack of response to the observations of the contractor during the work. | 3.275 | 65.49 | 14 |
| 15 | Lack of using efficient documentation system. | 3.235 | 64.71 | 15 |
| 16 | Safety and health measures are not followed. | 2.902 | 58.04 | 16 |

The average I.I. of "Clients" group =72.06%.

Table 3 shows that, "Clients bankrupt or insolvent" is ranked in the first position by contractors as a key driver for contract termination in

construction projects with II of (83.92). "Lack of financial capabilities of the clients" is ranked in the second position with II of (82.75)." Client's policy for compensation and mainly under force majeure conditions" was ranked in the third position with II of (80.0). These results could be traced to the fact that most of factors that lead to contract termination from clients sides are returned to major problems in cash flow and financial sustainability. The result showed also that the "Lack of response to the observations of the contractor during the work", "Lack of using efficient documentation system" and "Safety and health measures are not followed" are not in a critical position from contractors' perspectives that may cause contract termination.

### 4.3 FACTORS RELATED TO THE POLITICAL SITUATIONS

This group includes eight factors related to the political situations that may cause contract terminations. Table 4 illustrates the ranking of these factors under this group. The highest ranked factors are "Israeli attacks (wars and invasion)" that was ranked in the first position with II of (91.76). "Closure of Gaza Strip crossings" was ranked in the second position with II of (90.20) as a critical cause for contract termination. The factor "Closure of Gaza Strip crossings" was found in the second position by Enshassi et al [1] within the strength of political group of causes of contractor's business failure, and with a relative important index of (87.4%). "Political uncertainty and interruption" was shown in the third position with II of (86.67). In average, the eight causes shown in Table 4 have score mean over (4) which reflect strong satisfaction of the importance for these causes for contract termination. This result matches Enshassi and Abu Mosa [5]. Besides the results match Al Hallaq [4] who showed that the external risk led to large losses in construction sector and termination of most projects. The important observations are the high score mean and II of these factors (all factors over 80.0). This reflect strongly the high margin of risks and unstable industry that a drastic driver for contract terminations under this situations.

**Table (4): Ranks of the political situation related factors affecting contracts termination.**

| No. | Sub-factor | Mean | I.I. | Rank |
|---|---|---|---|---|
| 1 | Israeli attacks (wars and invasion) | 4.588 | 91.76 | 1 |
| 2 | Closure of Gaza Strip crossings/boarders. | 4.510 | 90.20 | 2 |
| 3 | Political uncertainty and interruption. | 4.333 | 86.67 | 3 |
| 4 | Location of some projects at hot regions such as: Bait Hanon, El-Zaiton, El-Shoka, ….etc. | 4.176 | 83.53 | 4 |
| 5 | Internal political troubles; as: rebellion, civil war, or disorder. | 4.157 | 83.14 | 5 |
| 6 | Increment of material prices due to continuous closures. | 4.137 | 82.75 | 6 |
| 7 | Limitations on importing. | 4.137 | 82.75 | 7 |
| 8 | Delay in collecting debt from donors. | 4.098 | 81.96 | 8 |

The average I.I. of "Political" group = 682.8/8 = 85.35%.

**4.4 FACTORS RELATED TO BUSINESS ENVIRONMENT**

Eight factors are listed under this group as shown in Table 5. In this group, the "Monopoly of some important materials for construction industry" was ranked in the first position as a major cause of contract termination with II of (75.29). "National slumps in the economy" was ranked in the second position with II of (74.51) while the "Poor economic conditions" was ranked in the third position with II of (73.33). On the other hand, the three lowest ranked factors were "Absence of specialized courts to deal with disputes of construction industry", "Banks policy" and "Accounting and tax practices". The factor "National slumps in the economy" was found in the second position by Enshassi et al [1] within the strength of business environmental group of causes of contractor's business failure, and with a relative important index of (80.4%).

**Table (5): Ranks of business environmental related factors affecting contracts termination**

| No. | Sub-factor | Mean | I.I. | Rank |
|---|---|---|---|---|
| 1 | Monopoly of some important materials for construction industry. | 3.765 | 75.29 | 1 |
| 2 | National slumps in the economy. | 3.725 | 74.51 | 2 |
| 3 | Poor economic conditions (currency, inflation rate, etc.) | 3.667 | 73.33 | 3 |
| 3 | Difference of local currency exchange with contract currency. | 3.667 | 73.33 | 3 |
| 5 | Absence of construction industry regulations. | 3.392 | 67.84 | 5 |
| 6 | Banks policy. | 3.333 | 66.67 | 6 |
| 7 | Absence of specialized courts to deal with disputes of construction industry. | 3.333 | 66.67 | 7 |
| 8 | Accounting and tax practices. | 3.255 | 65.10 | 8 |

The average I.I. of "Business environmental" group = 586.8/8 = 70.35%

## 4.5 FACTORS RELATED TO PROJECT CHARACTERISTIC

This group includes four drivers/factors causes contract termination in construction projects. Table 6 illustrates the expected key drivers causing termination and its ranks.

**Table (6): Project characteristic related factors affecting contracts termination**

| No. | Sub-factor | Mean | I.I. | Rank |
|---|---|---|---|---|
| 1 | Repetition of suspension work. | 3.843 | 76.86 | 1 |
| 2 | Type of project. | 3.667 | 73.33 | 2 |
| 3 | Problems with neighbors. | 3.059 | 61.18 | 3 |
| 4 | Adverse climate conditions. | 2.784 | 55.69 | 4 |

The average I.I. of "Project factors" group = 267.1/4 = 66.77%

The highest ranked factor within this group was" Repetition of works suspension" with II of (76.86). This factor indicates that the repetitive occurrence of suspension in the project will give a strong indicator of contract termination in future. From our perspectives, it is believed that this factor in a critical position to be considered although not being found in a high score mean. Such factor could forecast the occurrence of problems causes this suspension and future termination. The repetitive of contract suspension traced directly to failure to achieve project objectives. These conclusions matches Cleland and Ireland who showed that termination of failed project comes about for several reasons such failure to attain the targeted objectives of project.

The overall average scores for each groups of factors/drivers causes contracts termination is summarized in Table 7. From the results, it can be observed that the political related factors was shown in the highest position score with II of (85.35) followed by clients related factors and business Environment factors with Important indexes (II) over (70). These results reflect obviously the sensitive and critical impact of the non stability of the political situations at the construction industry as well as other industries in the Gaza strip. Moreover, the results highlight the key role that should be carried out by clients to mitigate the harmful impact of contract termination at the construction parties.

**Table (7): Means and ranks of main groups driving contracts termination**

| Group | Mean | Percent % | Rank |
|---|---|---|---|
| Political related factors | 4.267 | 85.35 | 1 |
| Clients related factors | 3.60 | 72.06 | 2 |
| Business Environment related factors | 3.52 | 70.35 | 3 |
| Project characteristic related factors | 3.34 | 66.77 | 4 |
| Contractor related factors | 3.34 | 66.71 | 5 |

## 4.6 CRITICAL SUCCESS FACTORS (CSF) CAUSES CONTRACT TERMINATION IN CONSTRUCTION PROJECTS

In this study, to identify the critical drivers' cause contract termination in construction projects, the factors/drivers that has important index over 80% was considered as CSF causes contract termination. Eleven factors (11) were found with II over 80%. The score means and the II of these factors are summarized in Table 8.

**Table (8): Critical success factors cause contract termination (CSFs)**

| No. | Critical Factors | Mean | I.I. | Rank |
|---|---|---|---|---|
| 1 | Israeli attacks, wars and invasion (CSF1). | 4.59 | 91.8 | 1 |
| 2 | Closure of Gaza Strip crossings/Borders (CSF2). | 4.51 | 90.2 | 2 |
| 3 | Political uncertainty and interruption (CSF3). | 4.33 | 86.7 | 3 |
| 4 | Clients become bankrupt or insolvent (CSF4). | 4.196 | 83.92 | 4 |
| 5 | The location of some projects at hot regions such as: Bait Hanon, El-Zaiton, El-Shoka ….etc (CSF5). | 4.18 | 83.5 | 5 |
| 6 | Internal political troubles; as: rebellion, civil war, or disorder (CSF6). | 4.16 | 83.1 | 6 |
| 7 | Lack of financial capabilities of the clients (CSF7). | 4.137 | 82.75 | 7 |

| | | | | |
|---|---|---|---|---|
| 8 | Increment of material prices due to continuous closures (CSF8). | 4.137 | 82.75 | 8 |
| 9 | Limitations on importing (CSF9). | 4.137 | 82.75 | 9 |
| 10 | Delay in collecting debt from donors (CSF10). | 4.10 | 82.0 | 10 |
| 11 | Client's policy for compensation and mainly under force majeure conditions (CSF11). | 4.00 | 80.0 | 11 |

## 5. CONCLUSION AND RECOMMENDATIONS

### 5.1 CONCLUSION

Unnatural termination is considered one of the critical problems observed frequently in the construction projects in the Gaza Strip. The main factors or drivers causes' contract termination in construction projects were investigated. The result concluded that, the factors observed under the Political and Clients groups was ranked as the highest factors causes contract termination in the construction projects. The consecutive Israeli attacks to the Gaza strip area and the imposed closure at Gaza strip create unstable environment and increase the risk and push significantly to the occurrence of project terminations. The financial problems faces the clients were shown as a key driver that may drive strongly to cause the termination in the construction projects. Boarders closure, Political uncertainty and interruption, bankrupting or insolvent of clients, location of some projects at hot regions, Internal political troubles, Limitations on importing, Increment of material prices due to continuous closures, were shown as a critical factors and drivers of contract terminations. These results emphasize a fact that the clients should play a crucial role to mitigate the possibility of the contract termination.

### 5.2 RECOMMENDATIONS

Out of the obtained results and conclusions, some recommendations are worth to be highlighted. Clients are recommended to plan the termination process in case of occurrence. The Government and the Palestinian contractors Union (PCU) should evaluate the termination cases observed in the Gaza strip and benchmark the most efficient clients dealing with such cases. The clients, contractors and all parties operating in the construction industry is recommended strongly to set a side by establishing proper regulations and mechanism to deal with the drivers causes contract termination in the projects. Conducting continuous training program to improve managerial and financial capabilities of the core staff will be in a top prioritized position for all parties operating in construction projects. The donors, government, local community is recommended strongly to exert all efforts to break the siege imposed at Gaza strip. Finally the Ministry of

Public Works and Housing is recommended to establishment a research and development unit (RDU) to overcome the dynamic impact of the drivers for cost, time and quality losses that may appeared as a results of terminating the construction contracts.

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