Analysis of contractors' bidding decision in the palestinian construction industry

Análisis sobre las decisiones de los contratistas para licitar en la industria de la construcción palestina

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Abstract

Both the bid decision and the determination of the bid price are very important to every contractor. The importance of such decisions lies in the fact that, the success or failure of a contractor's business depends on the outcomes derived from these decisions. The aim of this paper is to identify and analyze the factors which are believed to affect bidding and markup size decisions in the construction industry in Gaza Strip. A questionnaire survey elicited responses from 77 general contractors. The results indicated that, most of the contractors depend on subjective processes in making bid/no bid and markup size decisions are based on experience-based judgment. Some factors are considered important in both decisions while some other factors are considered important in one decision but not the other. The most important groups which affects bid no bid and mark up size were found to be "client and consultant of the project" group, and "project conditions contributing to profitability of the project" group. The results also showed that, the current financial capability of the client, project size and financial status of the company were the main factors affecting bid no bid decisions. Regarding mark up size decision, it was found that the duration of project, political environment, and terms of payment were the main factors affecting the mark up decision. Some recommendations are proposed in this study.

Keywords: Bidding, contractors, decision, construction

Resumen

Ambas, la determinación de licitar y la determinación del precio a licitar son muy importantes para cada contratista. La importancia de estas determinaciones descansa en el hecho que, el éxito o fracaso del negocio contratista, depende de los resultados derivados de tales determinaciones. El objetivo de este artículo es identificar y analizar los factores que, se estima, afectan las determinaciones de licitar y del margen de utilidad en la industria de la construcción de la Franja de Gaza. Una encuesta, tipo cuestionario, reveló las respuestas de 77 contratistas generales. Los resultados indicaron que la mayoría de los contratistas depende de procesos subjetivos para tomar la determinación de licitar o no licitar, y para las determinaciones de margen de utilidad, fundamentados en un juicio basado en la experiencia. Algunos factores son considerados importantes en ambas determinaciones, mientras que otros factores son considerados importantes sólo para un tipo de determinación y no para la otra. Los grupos más importantes que afectan la licitación/no licitación y el margen de utilidad, resultaron ser el grupo "cliente y consultor del proyecto" y el grupo "Condiciones del proyecto que contribuyen a la rentabilidad del mismo". Los resultados también indicaron que, la capacidad financiera actual del cliente, tamaño del proyecto y la situación financiera de la empresa, constituyen factores principales para decidir si licitar o no licitar. Con relación a la determinación de margen de utilidad, se determinó que la duración del proyecto, el ambiente político y los plazos de pago constituyen los principales factores que afectan la determinación de margen de utilidad. Este estudio proporciona algunas recomendaciones.

Palabras Clave: Licitación, contratistas, determinación, construcción

1. Introducción

1. Introduction

The construction sector is one of the key economic sectors and is the main force motivating the Palestinian national economy. Upon the establishment of the Palestinian National Authority and the assumption of its powers over the Palestinian territories in 1994, the construction sector has witnessed noticeable expansion and activities.

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This has resulted in the recovery of the construction contracting profession and subsidiary industries, has also encouraged the investment of Palestinian expatriates' capital in the local construction sector, and contributed to the creation of jobs for thousands of Palestinians. Therefore, the construction sector has occupied the foremost position among the rest of sectors, mainly in the attraction of investments and creation of new jobs (World Bank 2006). It is noted that the construction industry in the Gaza Strip is dominated by a competitive business environment that is being driven by a lowest cost mentality. The pressure on contractors bidding decisions has further increased in the last five years due to the current political situation which led to a sharp decrease in the number of the available projects (PCU 2009).

In the year 1999 the construction industry contribution to GDP was US\$ 616.9 million which represent 13.7 % of total GDP, whereas in 2005 it was US\$ 119.4 million which represent only 2.7 %. The gross value added for construction activity decreased by 2.8% during the fourth quarter of the year 2005 compared to the third quarter of 2005, while it increased by 6.2% compared to the same quarter of the year 2004 (PCBS 2006). According to PCU (2009), the kind of available projects in the market have changed in the last three years in that the most of the available projects are emergency projects, as housing projects for the people who lost their houses because of the various conflicts. Researchers have not paid attention to bidding decision practices in the local market.

The main reason for focusing on this topic is the need to identify the factors affecting bidding and markup size decisions with a view to improve the performance of both contractors and owners. A questionnaire survey was launched in an attempt to uncover the underlying factors that characterize the two different but sequential decisions which are bid/no bid and markup size decisions. 77 general contractors in Gaza Strip-Palestine responded to this questionnaire.

A brief review of previous studies

One of the most important decisions that have to be made by contractor firms is whether to bid or not to bid for a project, when an invitation has been received (Chen et al. 1994).

This decision is basically: "Is the project to bid the kind of work our company has been successful at completing to the owner's satisfaction, and will our company make a reasonable profit for that work?" (Egemen and Mohamed 2005). Drew et al. (2001) and Skitmore (1989) stated that the contract bidding is a well established mechanism for achieving distribution of work to willing contractors and is concerned with contractors making strategic decisions in respect of the selection of contracts to bid for and the bid levels necessary to secure them. Lai et al (2002) defined competitive bidding decisions as affecting contractor selection from the viewpoint of an owner or client, as well as a bid/ no bid decision and a bid price or bid markup setting faced by a contractor.

Since contractors' bidding behavior is affected by numerous factors related both to the features of the project and dynamically changing situations, bidding decision problem are highly unstructured. Bidding is a very complex decision requiring simultaneous assessment of a large number of highly inter-related variables to arrive at a decision (Chua et al., 2001). Bennett (2003) reported that one of the most important decisions that have to be made by a construction company is whether or not to bid for a new project when an invitation has been received. It is not possible for the contractor to prepare a tender for every available project. Even in lean economic times, when jobs are scarce, some means must be employed by company management to decide whether to prepare a cost estimate and tender for a particular project. It is useful to think of a bid as being made up of two basic elements: (1) the estimate of direct job cost, which includes direct labor costs, material costs, equipment costs, and direct field supervision; and (2) the markup or return, which must be sufficient to cover a portion of general overhead costs and allow a fair profit on the investment.

Shash (1993) stated that, in competitive bidding, the bidding process involves two critical decisions, bid or not to bid' and mark up size. (Ahmad, 1990) also stated that the bidding decision-making problems are faced by general contractors in closed competitive bidding situations.

There are two distinct but sequential stages in the bidding decision making process, the bid/no bid decision and the percent markup selection. Shash (1998) found that both the bid decision and the determination of bid price are very important to every contractor. The importance of such decisions lies in the fact that the success or failure of a contractor's entire business depends on the outcomes derived from these decisions. Both decisions are considered complex since the consequence of each alternative is uncertain, and there are a large number of factors that considerably impact on both decisions.

The construction industry is extremely fragmented and highly competitive. Contractors have to bid competitively for most of their work and at the same time deal with risks and uncertainties connected with bid submission. A great deal of current information is needed together with forecasts of demand, cost, competition, etc., to enable bids to be set and adjusted to desired profit levels (Akintoye and Skitmore 1990). Competitive bidding on construction projects involves decision making under uncertainty where one of the greatest sources of the uncertainty for each bidder is the unpredictable nature of his competitors (Shash, 1998). Ahmad and Minkarah (1988) presented the factors affecting the bidding decision of top US contractors. They identified 31 factors affecting the bid decision. Skitmore (1989) presented the application aspects of statistical models in tendering decisions. Akintoye and Skitmore (1990) analyzed UK tender price trends and found that the market conditions (supply and demand) have a major effect on tender price movement. Shash (1993) identified 55 factors affecting the bidding decision making processes of top UK contractors. Shash (1998) also identified many factors characterizing the bid decision making processes of subcontractors in Colorado. Egemen and Mohamed (2005) identified 83 key determining factors and their importance weights in bidding decisions through findings from a survey of 80 contracting firms from the Northern Cyprus and Turkish construction markets.

A study was conducted by Jaselskis and Talukhaba (1998) to determine information requirements of architectural, engineering and construction

firms interested in bidding work on international construction projects. A total of 60 interviews were conducted with professionals in construction, design, and consulting firms, professional organizations, governmental agencies and international banks to help identify critical information needs for firms interested in working abroad. The top information requirements unveiled were type of laws and regulatory requirements, type of import restrictions on materials, equipment, and labor, construction risk, availability and cost of construction materials, characteristics of subcontractors, availability of construction material facilities, prequalification requirements, client information, stability of foreign country, quality of equipment and material, and craft worker wage rates.

Ahmad (1990) divided the factors representing major objectives of a construction firm into four hierarchical groups: job related factors, market related factors, firm related factors, and resources related factors. Egemen and Mohamed (2005) stated that there are three main categories of factors that contribute to the final decision, which are: firm related factors, project related factors, and market conditions/expectations and strategic considerations. Detailed hierarchies and many sub goals exist for each of these three main categories. They investigated firm related factors under two main sections, which are the current need of the contracting firm for obtaining new work and the strength of the contracting firm compared to possible major competitors in this bidding process. The project related factors were identified and investigated under three main categories, which are 'project profitability', 'project risk' and 'competition due to project conditions'. Project risk was further divided into more subcategories. Competition expected in considering project related conditions only, was included as a separate sub-goal as well.

Market conditions/expectations and strategic considerations included 'strategic considerations of the firm' and 'market clients' overall demand or expectations from contracting organizations. They took into account strategic considerations of the firm and possible long-term effect of the decisions.

This is a crucially important subgoal, which should be dealt separately in detail, considering its contribution in making the final decisions 'strategically correct'. Each bid submitted for a particular job by a contractor will be influenced and determined by a large number of factors, including an estimate of the direct job cost, the general overhead, the confidence that the management has in their estimate, and the immediate and long-range objectives of management. So many factors are involved that it is impossible for a particular bidder to attempt to predict exactly what the bids submitted by its competitors will be (Shash 1998).

Carr and Sandahl (1978) found that the factors that affecting the bidding decision fall into three main categories, namely job characteristics, economic environment and competition condition. Based on similar rationale, factors influencing bidding behavior were grouped by Drew and Skitmore (1993) into those affecting:

- The behavior of contractors as a group (eg. market conditions, number and identify of competitors).
- Individual contractor behavior (eg. contractor size, work and tenders in hand, availability of staff).
- Behavior toward the characteristics of the contract (eg. type and size of construction work, client, location).

Flanagan and Norman (1982) identified that bidding behavior in general terms, is likely to be affected by the following five major factors:

- Size and value of the project, and construction managerial complexity required to complete it.
- Regional market conditions.
- Current and projected workload of the tenderer.
- Type of client.
- Type of project.

Akintoye and Skitmore (1990) studied the factors affecting markup size and pricing decisions and they grouped them into four broad identified areas: environmental factors, profitability, and procurement. Leary (2006) studied the considerations in the general contractor's decision to bid or not to bid from the point of view of the problems facing the bidders.

He stated that the architect and engineers who set up and administer bidding procedures or who advise clients on how to do it should be aware of the practical problems facing general contractor bidders. He believed that some do not realize how costly it is for a contractor to prepare a responsible competitive bid for a construction contract. Bennett (2003) also reported on factors that must be considered when deciding to bid or not to bid. He categorized these into three main categories: related to project characteristics, company status and its strategic positioning, and external conditions.

2. Methodology

Aim

Following the literature review, as summarized in the above section, the aim of the research was formulated as follows: to identify and analyze the factors which are believed to affect bidding and markup size decisions in the construction industry in Gaza Strip with a view to improve the performance of both contractors and owners.

Population

The population of this research which was investigated is the group of contracting companies which are registered in the Palestinian Contractors Union (PCU) in Gaza Strip, as classified by the national classification committee and must have valid registration in the PCU. According to the PCU in Gaza Strip the number of construction companies registered and graded according to their field of work is 183 companies

Contractors are classified according to specialty as follows:

1. Building contractors.
2. Road construction contractors.
3. Water and sewer contractors.
4. Electro-mechanics contractors.
5. Public works and maintenance contractors.

The target group to be investigated in this research was narrowed down to the group of contracting companies classified under the first, second and third grades in any field. The fourth and fifth grades were neglected due to lower practical and administrative experience in the competitive bidding.

According to the (PCU) any contracting company can be classified in more than one field in different classes, for example, a company may have a first grade in buildings and a third in roads and a second in electro-mechanics. The total number of contracting companies which are under the first, second and third grades is 138 which is the population target group of this research.

Sample size

The following statistical equation was used to determine the sample size (Creative Research System 2009, Ayyub and Mccuen 2003).

$$SS = \frac{Z^2 \times P \times (1-P)}{C^2}$$

Where: SS is the sample size

Z = Z value (e.g. 1.96 for 95% confidence interval)

P = Percentage chosen for an initial trial, expressed as decimal, (0.50 for trial sample size estimate)

C = Maximum (allowable) error of estimation (0.08)

$$SS = \frac{(1.96)^2 + 0.5 \times (1 - 0.5)^2}{(0.08)^2}$$

Correction for finite population

$$SS_{correcte} = \frac{SS}{1 + \frac{(SS - 1)}{N}}$$

Where: N is the population; in this case it is equal to 138 contracting companies.

$$SS_{correcte} = \frac{150}{1 + \frac{(150 - 1)}{138}} \approx 73$$

The previous calculations shows that the minimum number of the questionnaires needed to be collected is 73, representing 52.9% of the target group.

Bidding decision factors

In real applications, a contractor arrives at bid/no bid and mark-up size decisions only after a complex reasoning process. Considering this fact, the present research will investigate various factors from the perspective of reasoning goals that contribute to the overall decision. Through interviews conducted with six experienced contractors in the market and a literature search, a comprehensive list of factors was identified and categorized according to various identified sub goals in bidding and mark-up decisions.

There are three main categories of factors that are contributing to the final decision, which are 'firm-related factors', 'project-related Factors' and 'market-conditions/expectations and Strategic Considerations' (Egemen and Mohamed, 2005). 'Firm-related factors' are investigated under two main sections, which are the current need of the contracting organization for obtaining new work and the strength of the contracting organization compared to possible major competitors in this bidding exercise. 'Project-related factors' are identified and investigated under three main categories, which are 'project profitability', 'project risk' and 'competition due to project condition'. Project risk is further divided into more sub-categories. Competition expected considering project-related conditions only, was included as a separate sub goal as well. 'Market conditions/ expectations and strategic considerations' include 'competition due to existing market conditions only', 'strategic considerations of the firm' and 'market clients' (and their representatives) overall demand or expectations from contracting organizations'. The proposed bid decision takes into account strategic considerations of the firm and possible long-term effect of the decisions.

The factors which were added by conducting interviews with experienced contractors in the Gaza Strip were located according to their respective categories as in Table 1:

Tabla 1. Factores que fueron agregados por contratistas locales
Table 1. Factors that were added from local contractors

No.	Descripción de factores/Factor descriptions	Categoría/Category
1	Disponibilidad de pagos anticipados para el proyecto Availability of advanced payment for the project	Riesgo de crear trabajo y condiciones contractuales Risk creating job and contract conditions
2	Mandante del proyecto The donor of the project	Cliente y consultor del proyecto Client and consultant of the project
3	Tamaño de la red de relaciones entre las partes involucradas en el proyecto y la responsabilidad de coordinación entre ellas The size of relationship reticulation among the concerned parties in the project and the responsibility of coordination among them	Cliente y consultor del proyecto Client and consultant of the project
4	Ambiente político, condiciones de seguridad y las situaciones del cruce de la carga por el paso fronterizo The political environment, security situation and the cargo crossing point situation	Condiciones económicas y de inestabilidad Economic conditions and instability
5	Condiciones del uso de materiales locales Conditions of using local materials	Disponibilidad de recursos dentro de la región Availability of resources within the region
6	Libertad para importar materiales The freedom of importing materials	Legislación y normas gubernamentales sobre la construcción Laws and government regulations in construction
7	Disponibilidad de precalificación de los contratistas oferentes Availability of prequalification for contractors in the tender	Competencia (considerando sólo el proyecto actual) Competition (considering only the current project)
8	Modalidad de la licitación (oferta pública, invitación especial) The method of bidding (open tender, special invitation, ... etc)	Competencia (considerando solo el proyecto actual) Competition (considering only the current project)
9	Relación entre la empresa y los tomadores de determinaciones de la institución propietaria, y la posibilidad de resolver problemas que puedan ocurrir durante el trabajo The relationship between the company and the decision makers in the owner's institution and the possibility of solving problems that may occur during work	Cliente (considerando ganancias/pérdidas a largo plazo) Client (considering long-term gains/losses)
10	Procedimientos generales del cliente para adjudicar el contrato The client's general procedures to awarding the contract	Cliente (considerando ganancias/pérdidas a largo plazo) Client (considering long-term gains/losses)
11	Relación entre la empresa y los tomadores de determinaciones de la institución consultora, y la posibilidad de resolver problemas que puedan ocurrir durante el trabajo The relationship between the company and the decision makers in the consultant's institution and the possibility of solving problems that may occur during work	Empresa consultora (considerando ganancias/pérdidas a largo plazo) Consultant firm (considering long-term gains and losses)

Table 2 lists the related factors considered in this study for the bidding choices in both the bid/no bid decision and mark-up decision based on the literature review (Flanagan and Norman 1982, Skitmore 1989, Ahmad 1990, Akintoye and Skitmore 1990, Shash 1993, Drew and Skitmore 1993, Shash 1998, Ahmad and Minkarah 1988, Bennett 2003, Egemen and Mohamed 2005, Leary 2006).

Tabla 2. Listado final de los factores investigados y empleados en el cuestionario
Table 2. Final list of the factors investigated and used in the questionnaire

Descripciones de Factor/Factor descriptions
1. Factores relacionados con la empresa/Firm related factors
1.1 Necesidad de trabajo/Need for work
1. Carga laboral actual de proyectos, relativos a la capacidad de su empresa/The current workload of projects, relative to the capacity of your firm
2. Disponibilidad (número y tamaño) de otros proyectos dentro del mercado/Availability (number and size) of other projects within the market
3. Situación financiera actual de la empresa/The current financial situation of the company
4. Necesidad de continuidad de empleo, para personal clave y fuerza de trabajo/The need for continuity in employment of key personnel and workforce
5. Carga laboral actual en la preparación de la licitación/The current workload in bid preparation
6. Principales plantas y equipo adquirido. Que no se emplean/The major plants and equipment owned. Which are not used
1.2 Strength of the firm/Fortaleza de la empresa
1. Cumplimiento acabado de las condiciones de la licitación impuestas por el cliente/Completeness of fulfilling to tender conditions imposed by the client
2. Situación financiera de su empresa (flujo de caja para requerimientos del proyecto)/Financial status of your company (working cash requirement of project)
3. Experiencia y familiarización de su empresa con este tipo específico de trabajo/Experience and familiarity of your firm with this specific type of work
4. Disponibilidad de un número suficiente de personal técnico calificado/Possessing enough number of qualified technical staff
5. Disponibilidad de un número suficiente de plantas y equipamiento requerido/Possessing enough number of required plant and equipment
6. Disponibilidad de subcontratistas calificados/Having qualified subcontractors
7. Disponibilidad de proveedores calificados de materiales/Having qualified material suppliers
8. Cantidad de equipo que necesita ser contratado y las tarifas de arriendo del mercado/The amount of equipment that needs to be hired and the hire rates in the market
9. Cantidad de trabajo a ser subcontratado, en relación al volumen total de trabajo/The amount of work to be subcontracted relative to the total volume of work
10. Familiarización de su empresa sobre aspectos geográficos y sociales de la ubicación de construcción/Familiarity of your firm with geographical and social aspects of construction location
11. Disponibilidad de número suficiente de personal gerencial calificado/Possessing enough number of qualified managerial staff
2. Factores relacionados con el proyecto/Project related factors
2.1 Condiciones del proyecto que contribuyen a su rentabilidad/Project conditions contributing to profitability of the project
1. Tamaño del proyecto (valor total de la licitación)/Project size (total bid value)
2. Plazos de Pagos (mensual/semestral/...)/Terms of payment (monthly/ quarterly/...)
3. Tipo de proyecto/Project type
4. Ganancias por proyectos similares en el pasado/Profits made in similar projects in the past
5. Ubicación del proyecto/Project location
6. Duración del proyecto/Project duration
2.2 Riesgo del proyecto/Risk of the project
2.2.1 Riesgo relacionado con el trabajo/Job related risk
2.2.1.1 Incertidumbre del proyecto/Project uncertainty
1. Incertidumbre relacionada a las condiciones del lugar de la obra/Uncertainty related to construction site conditions
2. Entrega acuciosa de los documentos de la licitación (planos, especificaciones, etc.)/The completeness of the bid documents (drawings, specifications, etc.)
3. Cantidad de cambios esperados, a lo largo de la ejecución del proyecto/The amount of changes expected throughout the execution of this project
4. Confianza que usted posee en los subcontratistas del proyecto/Confidence u have on your subcontractors in this project
5. Confianza que usted posee en los costos estimados, por los calculistas de su empresa, para el proyecto/Confidence u have in cost estimate of your firm's estimators in this project
6. Incertidumbre debido a las condiciones climáticas (considerando clima y estación)/Uncertainty due to weather conditions (considering local climate and season)
2.2.1.2 Complejidad del trabajo/Job complexity
1. Dificultad tecnológica del proyecto más allá de la capacidad de la empresa/Technological difficulty of the project being beyond the capability of the firm
2. Gerenciamiento de proyectos de similar tamaño en el pasado/Management of similar size projects in the past
3. Algunos peligros de seguridad durante la etapa de ejecución del proyecto/Any safety hazards during project execution stage
4. Ubicación de la obra y su accesibilidad que provocan riesgo durante la ejecución del proyecto/Site location and accessibility creating risk during project execution
2.2.1.3 Riesgo de crear trabajo y condiciones contractuales/Risk creating job and contract conditions
1. Rigidez de las especificaciones/The rigidity of specifications
2. Duración permitida del proyecto, considerada como suficiente/Allowed project duration being enough
3. Condiciones de las multas por incumplimiento de la finalización a tiempo del proyecto/The penalty conditions for not being able to complete the project on time
4. Formas de pago para el proyecto que generan un ambiente de riesgo/Payment conditions of the project creating a risky environment
5. Duración permitida para la preparación de la oferta, considerada como suficiente/Allowed duration for bid preparation being enough
6. Tipo de contrato del proyecto/The contract type of the project

Descripciones de Factor/Factor descriptions
7. Proceso de resolución de controversias que crean posibles riesgos a la empresa contratista/Dispute resolution process creating any possible risks for the contractor firm
8. Emisión de boleta de garantía, que podría crear posibles riesgos/Warranty issues, which might possibly create risks
9. Disponibilidad de pago anticipado para el proyecto/Availability of advanced payment for the project
10. Factores ambientales relacionados al proyecto/Any environment issues related to project
2.2.1.4 Cliente y consultor del proyecto/Client and consultant of the project
1. Capacidad financiera actual del cliente/The current financial capability of the client
2. Mandante del proyecto/The donor of the project
3. Historial de pagos del cliente en proyectos anteriores (considerando demoras, escasez)/The history of client's payments in past projects (considering delays, shortages)
4. Actitud del cliente, características y estabilidad en sus necesidades/The client's attitude, characteristics and stability in needs
5. Actitud del consultor, características y facilidad para trabajar con él/The consultant's attitude, characteristics and the easiness to work with him
6. Tamaño de la red de relaciones entre las partes involucradas en el proyecto y la responsabilidad de coordinación entre ellas/The size of relationship reticulation among the concerned parties in the project and the responsibility of coordination among them
2.2.2 Riesgo debido a las condiciones inestables del país/Risk due to unstable country conditions
2.2.2.1 Condiciones económicas e inestabilidad/Economic conditions and instability
1. Riesgo debido a la tasa de inflación y a la moneda establecida en la licitación (métodos de compensación por inflación)/Risk due to inflation rate of tender currency (&inflation compensation methods)
2. Riesgos debido a la tasa de inflación en el país/Risk due to the current inflation rate in the country
3. Estabilidad del tipo de cambio en el país/Stability of exchange rates in the country
4. Política monetaria y fiscal del gobierno ante las fluctuaciones económicas/Monetary and fiscal policy of the government against economic fluctuations
5. Ambiente político, condiciones de seguridad y la situación del ingreso de la carga por el paso fronterizo/The political environment, security situation and the cargo crossing point situation
2.2.2.2 Disponibilidad de recursos dentro de la región/Availability of resources within the region
1. Disponibilidad de mano de obra requerida dentro de la región/Availability of required labor within the region
2. Disponibilidad de materiales requeridos dentro de la región/Availability of the required materials within the region
3. Disponibilidad de plantas y equipamiento requerido dentro de la región/Availability of required plants and equipments within the region
4. Condiciones para el uso de material local/Conditions of using local materials
2.2.2.3 Legislación y normas gubernamentales de construcción/Laws and government regulations in construction
1. Políticas y legislación para licencias, permisos y aprobaciones en el país/The policies and legislation regards licenses, permits, approvals in the country
2. Legislación relacionada con reclamos y discrepancias dentro del país/The laws related to claims and disputes within the country
3. Política gubernamental de impuestos en el país/Tax policy of the government in the country
4. Políticas y legislación relacionada con la tarifa de salarios mínimos dentro del país/The policies and legislation regarding minimum wage rates within the country
5. Cantidad de empleo de mano de obra no registrada dentro del mercado/The amount of use of unregistered labor within the market
6. Aplicación general de la Efectividad de competencia para proyectos licitados en construcción/Overall application effectiveness of competitive tendering in construction projects
7. Libertad para importar materiales/The freedom of importing materials
2.3 Competencia (considerando sólo el proyecto actual)/Competition (considering only the current project)
1. Posible número de competidores que cumplen los requisitos/The possible number of competitors passing the requirements
2. Deseo de contratistas calificados para ofertar y ganar el proyecto/The desire of qualified contractors to bid and win the project
3. Disponibilidad de pre-calificaciones de los contratistas oferentes/Availability of prequalification for contractors in the tender
4. Modalidad de la Licitación (oferta pública, invitación especial... etc.)/The method of bidding (open tender, special invitation, ... etc)
3. Condiciones/demandas del mercado y consideraciones estratégicas/Market conditions/demand and strategic considerations
3.1 Competencia (considerando sólo las condiciones actuales del mercado)/Competition (considering only the current market conditions)
1. Cantidad de actuales proyectos rentables en curso, dentro del mercado/Amount of the profitable projects currently in the progress within the market
2. Nivel de recientes ofertas adjudicadas, con margen de utilidad en el mercado/The level of winning offers mark-up in recent times in the market
3. Posibles cargas laborales de sus probables mayores competidores durante el periodo del proyecto/Possible workloads of your major possible competitors during the project period
4. Amenazas debido a la entrada de nuevos participantes en el mercado, aumentando la competitividad/Threats due to new entrants into the market increasing competitiveness
3.2 Consideraciones estratégicas/Strategic considerations
3.2.1 Futuras condiciones predecibles del mercado y situación financiera de la empresa/Foreseeable future market conditions & firm's financial situation
1. Tendencias del mercado (en declive, en expansión, etc.)/Market's direction (weather it is declining, expanding, etc)
2. Cantidad de posibles proyectos rentables por llegar, para ofertar en un futuro cercano/Amount of possible upcoming profitable projects out for tender in near future
3. Condiciones financieras actuales que indican un riesgo financiero en un futuro cercano/Existing financial conditions indicating a financial risk in near future
4. Proporción actual de participación de su empresa en el mercado y su participación esperada o trazada/The ratio of your firm's current market share to the expected or aimed share
3.2.2 Cliente (considerando pérdidas/ganancias a largo plazo)/Client (considering long-term gains/losses)
1. Cantidad de trabajo que el cliente realiza regularmente/Amount of work the client carries out regularly
2. Cantidad del nivel de negocios que se repiten por parte del cliente/The amount of repeat business level that the client been following
3. Posible efecto del cliente al proporcionar recomendaciones sobre mercados referidos/The client's possible effect by giving recommendations in referral markets

Descripciones de Factor/Factor descriptions
4. Relación entre la empresa y los tomadores de determinaciones de la institución propietaria, y la posibilidad de resolver problemas que puedan ocurrir durante el trabajo/The relationship between the company and the decision makers in the owner's institution and the possibility of solving problems that may occur during work
5. Procedimientos generales del cliente para adjudicar el contrato/The client's general procedures to awarding the contract
3.2.3 Proyecto (considerando ganancias y pérdidas a largo plazo)/Project (considering long-term gains and losses)
1. Posible contribución del proyecto a incrementar la clasificación de la empresa contratista/Project's possible contribution to increase the contractor firm's classification
2. Posible contribución del proyecto a incrementar la identidad de la firma y fortalecimiento de la marca/Project's possible contribution to increase the firm's identity and brand strength
3. Posible contribución a incrementar la participación de la empresa en el mercado y su dominio del mercado/Possible contribution in increasing firm's market share and dominance in market
4. Posible contribución en la creación de relaciones a largo plazo con otros actores claves/Possible contribution in building long-term relationship with other key parties
5. Contribución a mantener una relación a largo plazo con actores importantes e influyentes del mercado/Contribution in maintaining long-term relation with important influence market
6. Posible contribución del proyecto a mejorar el nivel de experiencia del personal de su empresa/Project's possible contribution in improving your firm's staff expertise
7. Posible contribución del proyecto a introducirse en un nuevo mercado con futuro productivo/Project's possible contribution to break into a new market with productive future
8. Contribución a mejorar el futuro de la empresa, debido al valor asignado por el público al proyecto terminado/Contribution to firm's future due to value of the completed project to the public
9. Posible contribución al mercado interno de la empresa (satisfacción de los empleados, etc.)/Possible Contribution to the firm's internal market (employee's satisfaction, etc)
3.2.4 Empresa consultora (considerando ganancias y pérdidas a largo plazo)/Consultant firm (considering long-term gains and losses)
1. Cantidad de trabajos en construcción realizado regularmente por el consultor/The amount of construction work the consultant has been regularly
2. Posible efecto del consultor al proporcionar recomendaciones sobre mercados referidos/The consultant's possible effect by giving recommendations in referral markets
3. Relación entre la empresa y los tomadores de determinaciones de la institución contratista, y la posibilidad de resolver problemas que puedan ocurrir durante el trabajo/The relationship between the company and the decision makers in the consultant's institution and the possibility of solving problems that may occur during work

Data collection

A total of 88 questionnaires were randomly distributed to contracting companies in the Gaza Strip and 77 questionnaires were received back from the contractors. The majority of the contractors surveyed, carried out building projects (e.g. educational, hospitals, commercial). The common projects had a value of up to US\$ one million, with duration up to two years. About half of respondent companies have over ten permanent employees. The majority of the surveyed contractors subcontract almost 70% of their work. The surveyed contractors can be considered small to medium sized firms. In terms of designations, the respondents comprised 65% company directors and 35% project managers.

Questionnaire design

A first draft of questionnaire was developed on the basis of literature review. The questionnaire design was mainly derived from the questionnaire of Ahmad, (1988) which is the fundamental questionnaire in this field. It apparently informed many later studies in this subject and included 31 factors to be studied. New factors were added based on the work of Egemen and Mohamed, (2005) who studied 83 factors. Modifications,

new questions, and new factors were added after interviewing experienced contractors in the Gaza Strip. The final questionnaire contained 94 factors divided into three main categories, consisting of 16 groups to be studied.

Pilot study

In order to improve the research rigour, the questionnaire should be piloted to measure the validity and reliability and testing capacity/ power vis a vis the collected data. The questionnaire was distributed and discussed with a group of experts containing three academics from the Islamic university of Gaza, two of them being from the Faculty of Engineering and one being an expert in statistical analysis who has wide experience in the subject of this research. After the preliminary testing, a pilot study was conducted to evaluate the questionnaire. The questionnaire was distributed to a sample of 18 contracting companies. In general, the respondents had no difficulty in understanding the included items and the instructions to complete the questionnaire.

The internal harmony of the questionnaires was tested with checks that used coefficients between each item and the related items field (Pearson correlation coefficient and Spearman Brown correlation coefficient). The corrected correlation coefficient (consistency coefficient) was computed according to the following equation:

Consistency coefficient = $\frac{2r}{1+r}$ where r is the Pearson correlation coefficient.

The normal range of corrected correlation coefficient $\frac{2r}{1+r}$ is between 0.0 and + 1.0.

It has been found that, all the corrected correlation coefficients values are between 0.0 and +1.0 and the significance (α) is less than 0.05, hence all the corrected correlation coefficients are significant at $\alpha = 0.05$. It can be said that the dispute causes group are reliable.

Relative importance Index

The respondents were asked for their perception of importance attached to the criteria listed to indicate its importance for their firms while taking the two crucially important decisions which are:

1. Bid / No Bid decision for a specific project under certain circumstances.

2. Mark-up size decision for a specific project under certain circumstances.

The importance rating was from 1 to 6 where 1 represented of low importance, 6 represented most importance and the importance of the factors steadily increased with increasing values from 1 to 6. For every single factor, two importance values were specified, one for each of the two major decisions mentioned previously. Data from the questionnaire were extracted to derive the importance weight of the factors. To determine the relative ranking of the factors, these scores were then transformed to importance indices based on the following formula (Kumaraswamy and Chan, 1995, Naoum 1998, Assaf et al., 1999, 2001, Abdul-Hadi 1999, Wanous et al., 2003)

$$\text{Índice de importancia relativa (IIR)} = \frac{\sum^w}{AN} = \frac{6n_6 + 5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{6N}$$

Relative importance Index (R I I)

Where W is the weighting given to each factor by the respondent, ranging from 1 to 6, (n_1 = number of respondents for Strongly disagree,..., n_6 = number of respondents for strongly agree). A is the highest weight (i.e. 6 in the study) and N is the total number i.e. $n_1 + n_2 + \dots + n_6$. The relative importance index ranges from 0 to 1. Tables 4 to 18 below show the relative importance index of each factor.

3. Results

A total of 94 factors that are believed to have influence on the bidding decision making process, were identified. These factors were divided into 16 groups which were listed under three main categories: "Firm-Related factors", "Project-Related Factors" and "Market Conditions/Expectations and strategic Considerations". Firm related factors were investigated under two main groups, which are the current need of work and strength of the firm. Project related factors were identified and investigated under three main groups, which are project profitability, project risk, and competition due to project conditions.

Project risk was further divided into two groups which are job related risk and risk due to unstable country conditions, job related risk being divided into four subgroups which were project uncertainty, job complexity, risk creating job and contract conditions, and client and consultant of the project. Risk due to unstable country conditions was further divided into three subgroups which are economic conditions and instability, availability of resources within the region, and laws and government regulations in construction. Market conditions/expectations and strategic considerations were investigated under two groups which are competition (considering only the current market conditions) and strategic considerations which consisted of four subgroups which are foreseeable future market conditions and firm's financial situation, client (considering long-term gains and losses), project (considering long-term gains and losses), and consultant firm (considering long-term gains and losses).

Category 1: Firm related factors

The firm related category was investigated under two groups which are "Need of work" and "Strength of firm".

'Need for work' factors group

6 factors that may affect bid/no bid and markup decisions were identified under the need for work group as shown in Table 3. The average importance indices rating for the factors included in bid/no bid and markup decisions are 0.691 and 0.632 respectively, which shows that the average importance rating assigned to the selected factors in the former decision process is higher than in the latter. When the factors listed in Table 3 are considered separately, it can be seen that most of the listed factors have significantly different importance ratings assigned for the two decisions. The more important factor in bid/no bid decision within this group is the current financial situation of the company ($R_{II} = 0.827$). This is consistent with this factor also being of the most 10 important factors influencing the bid/no bid decision in the overall analysis of the 94 factors investigated in this study, it being ranked by the local contractors as the sixth important factor.

The same factor was also considered highly important in markup decision within this group where it was ranked as the second important factor with significantly higher RII than the average ($RII=0.716$), although it was only ranked as the 26th important factor among all 94 factors investigated in this study that influence markup size decisions.

This factor was considered higher in bid/no bid decision due to the fact that if the company is facing financial problems for any reason then the company may face serious problems at the execution stage of the project which may also affect the future of the company. So many contractors assess their financial situation at the bid/ no bid stage to avoid such risks. 'The current workload of projects, relative to the capacity of your firm' factor was also assigned high importance in both decisions; being ranked as most (first) important factor in markup decision and second important factor in bid/no bid decision with RII equal to 0.740 and 0.788 respectively within this group. It was ranked as the 16th important factor in the overall factor analysis in bid/no bid decision and the 15th important factor in markup size decisions. Egemen and Mohammed (2006) found that this factor is the fourth important factor influencing bid/no bid decision among the 83 factors investigated in their study of Northern Cyprus and Turkish contractors. Even though this factor is one of the few factors in this study that has close influence in both decisions, it is clear that contractors consider it more important in bid/no bid decisions. Contractors take capacity limitations more seriously at bid/no bid stage rather than in markup decisions. The results show that if the company's capacity allows them to take new job then they consider this factor very high in markup decision.

There is one factor in this group that was considered of very low importance in both decisions: 'the current workload in bid preparation'. It was ranked as last important factor within the group and as one of the last five important factors within the overall factors.

This is probably because bid preparation is not a complex operation to most local contractors, given similarity in most of the projects and the fact that most of contractors depend on subjective assessment in making bid/no bid and markup size decisions. There is another factor which is less than the average of this group in both decisions: 'major plants and equipment owned which are not used' It was ranked as fifth important factor within the group and the 85th important factor in the overall factor analysis in bid/no bid decisions and 88th in markup size decisions.

This result indicates that most of the local companies follow the same policy in owning and renting necessary equipments for the work, and hence the problem is general and does not differentiate competitors. The other two factors in this group which are availability (number and size) of other projects within the market and the need for continuity in employment of key personnel and workforce have slightly higher RII than the average and were ranked as of medium importance in both decisions.

Tabla 3. Grupo "Necesidad de Trabajo"
Table 3. 'Need for work' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank
1	Carga actual de trabajo en proyectos, relativos a la capacidad de su empresa/The current workload of projects, relative to the capacity of your firm	0.788	2	16	0.740	1	15
2	Disponibilidad (número y tamaño) de otros proyectos dentro del Mercado/Availability (number and size) of other projects within the market	0.711	3	45	0.636	3	60
3	Situación financiera actual de la empresa/The current financial situation of the company	0.827	1	6	0.716	2	26
4	Necesidad de continuidad laboral para personal clave y fuerza de trabajo/The need for continuity in employment of key personnel and workforce Carga actual de trabajo en la preparación de la oferta	0.706	4	47	0.634	4	63
5	The current workload in bid preparation	0.529	6	92	0.524	6	91
6	Principales plantas y equipamiento adquirido. Que no son utilizados/The major plants and equipment owned. Which are not used	0.587	5	85	0.551	5	88
	Total	0.691		11	0.632		12

'Strength of the firm in the industry' group

Table 4 shows the relative importance indices (RII) for each of the 11 factors included in the 'strength of the firm in the industry' group together with the rank of each of them listed for each of bid / no bid decision and markup decision. The average rate of bid/no bid decision for this group is 0.716 and 0.666 for the markup size decision. Interestingly, the ratings of the surveyed contractors of the three most important factors and the three least important factors are the same for both decisions in this group. The financial status of the company (working cash requirement of project) is ranked to be the first important factor in the bid/no bid decision within this group with RII equal to 0.846 and as the third important factor in overall factors. However, it was ranked as the third important factor in markup decision (RII=0.708), while ranked as the 28th important factor in overall factors in the same decision. These results gave a clear indication that the contractor's financial situation is a very important issue to be considered in the decision of bid/no bid.

Experience and familiarity of the firm with this specific type of work is ranked to be the second important factor in both decisions but with significant difference in the RII where it was 0.803 in bid/no bid decision and 0.717 in markup decision. It was ranked as the 11th important factor in the overall factors group in bid/no bid decision and the 22nd important factor in markup decision. This shows that the contractors consider it more important in bid/no bid decisions. Even though many companies are specialized in more than one type of works, most of them concentrate on one or mostly two types of works so that not many contractors may be assigned to one project type. The strength of the firm in this area can then be an important factor to increase their chance of winning the project as will be shown later in this study. Completely fulfilling the tender conditions imposed by the client is ranked to be the first important factor in markup size decisions (RII=0.727) and the third important factor in bid/no bid decisions (RII=0.790).

It was ranked of relatively high importance in overall factors in both decisions, being ranked as 15th important factor in bid/no bid decisions and 21st in markup decisions. These results illustrate that the contractors consider this factor more important in bid/no bid decisions than markup decisions. If the company can not fulfil the tender conditions of the client, then many disputes can arise among project parties and the contractor is usually the loser in such situations.

Tabla 4. Grupo "Fortaleza de la empresa"
Table 4. 'Strength of the firm' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank
1	Cumplimiento acabado de las condiciones de la licitación impuestas por el cliente/Completeness of fulfilling to tender conditions imposed by the client	0.790	3	15	0.727	1	21
2	Situación financiera de su empresa (flujo de caja para requerimientos del proyecto)/Financial status of your company (working cash requirement of project)	0.846	1	3	0.708	3	28
3	Experiencia y familiarización de su empresa con este tipo específico de trabajo/Experience and familiarity of your firm with this specific type of work	0.803	2	11	0.717	2	22
4	Suficiente disponibilidad de personal técnico calificado/Possessing enough number of qualified technical staff	0.678	7	59	0.593	11	76
5	Suficiente disponibilidad de plantas y equipamiento/Possessing enough number of required plant and equipment	0.673	9	65	0.671	6	47
6	Disponibilidad de subcontratistas calificados/Having qualified subcontractors	0.636	10	74	0.608	10	72
7	Disponibilidad de proveedores de material calificados/Having qualified material suppliers	0.747	4	28	0.701	4	33
8	Cantidad de equipo que requiere ser arrendado y las tarifas de arriendo del Mercado/The amount of equipment that needs to be hired and the hire rates in the market	0.675	8	61	0.645	8	55
9	Cantidad de equipo que requiere ser subcontratado, en relación al volumen total del trabajo/The amount of work to be subcontracted relative to the total volume of work	0.604	11	81	0.636	9	61
10	Familiarización de su empresa con los aspectos geográficos y sociales del lugar de la construcción/Familiarity of your firm with geographical and social aspects of construction location	0.727	5	36	0.680	5	41
11	Disponibilidad de un número suficiente de personal gerencial calificado/Possessing enough number of qualified managerial staff	0.701	6	50	0.649	7	54
	Total	0.716		6	0.666		9

It is clear that the most (first) important factor in markup decisions has the same RII value as the fifth important factor in bid/no bid decisions ($RII=0.727$), viz. familiarity of your firm with geographical and social aspects of construction location. The latter ranked as the fifth important factor in markup decisions but with RII equal to 0.680, which indicates that contractors consider this group more important in bid/no bid decisions. Egemen and Mohamed (2006) found that this group has higher importance in bid/no bid decisions than markup. The factors related to the subcontracting works and subcontractors are the least important factors in this group as shown in factor numbers 6 and 9 in Table 4. This indicates that the contractors have no problem in this respect. It is important to mention here that most of the local contractors depend on available working teams of labor and materials suppliers. Since the companies manage both of them directly, it is unusual to sub-let the works to subcontractors in most project activities. The other factors included in this group are mostly seen to be of medium importance in both decisions, with most of them clustered around the average RII of the group.

Category 2: Project related factors

The project related category was investigated under three main groups which are "project conditions contributing to profitability of the project", "risk of the project" and "competition (considering only the current project)". The main group "risk of the project" is further divided into two groups which are "job related risk" and "risk due to unstable country conditions". The group of job related risks contains four subgroups which are "project uncertainty", "job complexity", risk creating job contract conditions" and "client and consultant of the project". The group of risks due to unstable country conditions contains three subgroups which are "economic conditions and instability", availability of resources within the region" and "laws and government regulations in the construction".

'Project conditions contributing to profitability of the project' group

As shown in Table 5, this group consists of six factors that are believed to influence the bidding decisions. This group is assigned a high importance by contractors; being ranked as the second important group in bid/no bid and markup decisions. It is logical to elicit such a result since the main objective of establishing a construction company is to generate profit.

There are three factors in this group that are ranked to be in the ten most important factors in bid/no bid decisions and two factors to be in the ten most important factors in markup decisions. Project size (total bid value) is ranked to be the first important factor in bid/no bid decisions ($RII=0.868$) and the second important factor in overall factors studied in this research. The same factor was also considered very important in markup size decisions where it was ranked as second important factor within the group ($RII=0.786$) and the sixth important factor in overall factors. Although this factor was important in both decisions, it is clear that it affects a bid/no bid decision more than a markup size decision since it has higher RII and ranked higher too, meaning that the project size is a main factor which encourage contractors to bid in the project, and it also affects the final decision of contractor on the final size of the markup. This factor was found by Egemen and Mohamed (2006) to be the first important factor influencing bid/no bid decision by Turkish contractors, although disagreeing with Ling and Liu (2004), who found that the project size is the 39th important factor affecting markup size decisions in Singapore. Ahmad (1988) stated that project size was ranked by top US contractors to be the ninth important factor in bid/no bid and the 14th important factor in markup size. Shash (1993) investigated UK contractors and found that project size is the ninth important factor affecting bid/no bid decisions and the tenth important factor affecting markup decisions.

Tabla 5. Grupo "Condiciones del Proyecto que contribuyen a la rentabilidad del mismo"
Table 5. 'Project conditions contributing to profitability of the project' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank
1	Tamaño del proyecto (monto total de la licitación)/Project size (total bid value)	0.868	1	2	0.786	2	6
2	Plazos de Pago (mensual / trimestral/...)/Terms of payment (monthly/ quarterly/...)	0.829	2	5	0.805	1	3
3	Tipo de Proyecto/Project type	0.823	3	7	0.717	3	23
4	Ganancias obtenidas de similares proyectos en el pasado/Profits made in similar projects in the past	0.784	4	20	0.717	3	24
5	Ubicación del proyecto/Project location	0.768	5	23	0.706	5	30
6	Duración del proyecto/Project duration	0.714	6	43	0.673	6	45
	Total	0.798		2	0.734		2

Terms of payment was ranked as of high importance in both decisions, being ranked as second important factor in bid/no bid decisions within the group (RII=0.829) and the most important factor in markup decision (RII=0.805). This factor was also ranked to be one of the ten most important factors in overall factors affecting both decisions, the fifth important factor in bid/no bid decisions and the third important factor in markup size decisions. Contractors usually consider this factor of high importance because it impacts on potential financial problems they may encounter in project cash requirements and from the financial situation of the company. Egemen and Mohamed (2006) investigated this factor in Turkish contractors and found that it is the second important factor affecting bid/no bid decisions but not so important in markup size decisions.

There is another factor which was considered highly important in bid/no bid decisions which is project type. It was ranked as the third important factor in both decisions within the group and the seventh important factor in overall factors in bid/no bid decisions. However, it was ranked as the 23rd important factor in overall factors in markup size decisions and less than the average of this group in this decision which is 0.734.

The reason that it was considered higher in bid/no bid decisions is that most of the contractors examine the type of project before deciding to bid or not. If they do decide to bid, it may not thereafter have a big influence on their decision in markup size. Ahmad (1988) found that US contractors considered this factor as the most important factor affecting bid/no bid decision and the third important factor in markup decisions. Agreeing with Shash (1993) who stated that the UK contractors consider it as seventh important factor in bid/no bid decisions and the 15th important factor in markup decisions. Ling and Liu (2004) also found that it has no great influence on markup size decisions in Singapore; revealing it to be the 41st important factor among the 52 factors investigated as potentially influencing markup size decisions.

The other factors in this group which are profits made in similar projects in the past, project location and project duration, were considered to be of medium importance in both decisions and have RIIs of less than the average in both decisions. Shash (1993) found that the profit made in similar projects in the past was considered very important by UK contractors, being ranked as eighth important factor in both decisions. Also, Ahmad (1988) stated that US contractors considered it as very important in both decisions, being ranked as fourth important factor in bid/no bid decisions and fifth important factor in markup size decisions. In this research it was considered the 20th important factor in bid/no bid decisions and the 24th important factor in markup size decisions.

'Project uncertainty' group

As shown in Table 6, this group is considered of medium importance in both decisions with very close results in both decisions, and with most of the factors being ranked very similarly in both decisions. The average RII in bid/no bid decisions were 0.704 and in the markup size were 0.699.

The first important factor in this group in both decisions was the amount of changes expected throughout the execution of this project with RII in bid/no bid equal to 0.773 and 0.794 in markup size decisions. This factor was also considered of high importance in overall factors in markup size decisions, while being ranked in the ten most important factors influencing markup size as fifth important factor. This factor is practically very important. When companies prepare bids they try to anticipate any changes that may occur in the execution of the project. For this some contractors study the tender bill of quantities, specifications and the drawings to find any critical points that they may benefit from. Since this can affect the final size of markup they decide for the project, it is considered as a highly important factor in markup size decisions.

Uncertainty due to weather conditions was considered the last important factor within this group and of low importance in overall factors in both decisions. This reflects the fact that the weather conditions and local climate have no significant changes across the seasons, hence being ranked as the 82nd important factor in bid/no bid decisions and 78th important factor in markup size decisions. Agreeing with previous studies, the other factors are considered to be of medium importance in both decisions, except for the findings of Shash (1993) who found that the completeness of the documents is the ninth important factor influencing markup size decisions in UK contractors; although he did not examine the amount of changes expected in the execution of the project.

Tabla 6. Grupo "Incertidumbre del proyecto"
Table 6. 'Project uncertainty' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank
1	Incertidumbre relacionada con las condiciones del sitio de la obra en construcción/Uncertainty related to construction site conditions	0.704	4	48	0.680	5	42
2	Entrega acuciosa de los documentos de la licitación (planos, especificaciones, etc.)/The completeness of the bid documents (drawings, specifications, etc.)	0.736	2	30	0.685	4	40
3	Cantidad de cambios esperados a través de la ejecución de este proyecto/The amount of changes expected throughout the execution of this project	0.773	1	22	0.794	1	5
4	Confianza que usted tiene en su subcontratista del proyecto/Confidence you have on your subcontractors in this project	0.684	5	55	0.689	3	38
5	Confianza que usted tiene en el costo estimado, calculado por especialistas en su empresa para este proyecto/Confidence you have in cost estimate of your firm's estimators in this project	0.734	3	31	0.756	2	11
6	Incertidumbre debido a las condiciones climáticas (considerando clima local y estacional)/Uncertainty due to weather conditions (considering local climate and season)	0.598	6	82	0.591	6	78
Total		0.704		7	0.699		5

'Job complexity' Group

The results shown in Table 7 indicate that the local contractors do not consider the job complexity as a highly important group in bid/no bid and markup size decisions. It was ranked as ninth important group in bid/no bid decisions (RII=0.699) and tenth important group in markup size decisions (RII=0.660). Agreeing with most of the previous studies, none of the factors included in this group ranked as highly important factors in the overall factors in both decisions. The contractors evaluated the management of similar size projects in the past as the most important factor within this group in both decisions, but they gave it a higher weight in bid/no bid (RII=0.742) than markup size decisions (RII=0.713), implying that they take it more seriously in bid/no bid decisions than markup decisions.

Disagreeing with the previous studies in other countries, the results show that the local contractors still do not have enough knowledge about safety issues, reflecting the fact that there is no enforcement of relevant regulations and penalties. They ranked it as of low importance in both decisions, being the last important factor within this group and the 70th important factor in overall factors in bid/no bid decisions and the 83rd important factor in markup size decisions. Ahmad (1988) found that this factor is the most important factor influencing markup size decisions in USA and the fifth important factor in bid/no bid decisions which is extremely distant from our findings. In UK, Shash (1993) found that it is the 25th important factor in markup decisions among the 55 factors studied and the 34th factor in bid/no bid decisions. The studies carried out in developing countries indicate results that are close to those from this research, Egemen and Mohamed (2006) and Ling and Liu (2004) found that the Contractors in Turkey and in Singapore still do not consider it as an important factor.

Tabla 7. Grupo "Complejidad del trabajo"
Table 7. 'Job complexity' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank
1	Dificultades tecnológicas del proyecto, más allá de la capacidad de la empresa/Technological difficulty of the project being beyond the capability of the firm	0.682	3	57	0.704	2	32
2	Administración de proyectos de envergadura similar, en el pasado/Management of similar size projects in the past	0.742	1	29	0.713	1	27
3	Peligros de seguridad durante la etapa de ejecución del proyecto/Any safety hazards during project execution stage	0.654	4	70	0.580	4	83
4	Ubicación de la obra y accesibilidad que provocan riesgos durante la ejecución del proyecto/Site location and accessibility creating risk during project execution	0.717	2	42	0.643	3	57
Total		0.699		9	0.660		10

'Risk creating job contract conditions' group

As shown in Table 8, this group was considered more important in markup size decisions ($RII=0.681$) than bid/no bid decisions ($RII=0.666$), while it was ranked as eighth important group in markup size decisions and 13th important group in bid/no bid decisions. In bid/no bid decisions the 10 factors in this group had varied weights and ranks, with five factors over the average of the group and five factors under the average. None of the factors was ranked highly important in overall factors. The first important factor within the group was payment conditions of the project creating a risky environment which was ranked as the third important factor in markup size decisions and the 17th important factor in overall factors in the same decisions. This factor was found by Egemen and Mohamed (2006) to be the third important factor in overall factors examined in Turkish contractors. The environment issue related to project ranked as one of the five least important factors in bid/no bid decisions. However, this factor was not studied by many researchers. Only Egemen and Mohamed (2006) studied it and found almost the same result. The rest of the factors were considered of medium importance in bid no bid decisions which is almost the same as previous studies.

'Allowed project duration being enough' was ranked as the most important factor in the overall factors studied in this research ($RII=0.878$). This may reflect the fact that many local contractors face real problems in preparing realistic schedules for most of the projects because of the current political and security situation, while some clients do not consider this issue when preparing bid documents, hence imposing heavy financial risks on contractors through penalty conditions. For this reason, the contractors ranked the penalty conditions for not being able to complete the project on time as highly important in markup size decisions too, it being ranked as 12th important factor in overall factors. In previous studies, most of researchers studied this factor but under other terminology and hence implications.

They considered this factor under 'project duration' which may not have the same implications for most contractors. Therefore in most studies it was ranked as a medium important factor in markup size decisions. As in previous studies the other factors varied from medium to low importance.

Tabla 8. Grupo "Riesgo de crear condiciones contractuales de trabajo"

Table 8. 'Risk creating job contract conditions' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank
1	Rigidez de las especificaciones/The rigidity of specifications	0.647	8	71	0.731	4	19
2	Suficiente duración permitida del proyecto/Allowed project duration being enough	0.725	2	39	0.878	1	1
3	Condiciones de multa por incumplimiento a tiempo del proyecto/The penalty conditions for not being able to complete the project on time	0.665	6	66	0.747	2	12
4	Condiciones de pago del proyecto que originan un ambiente de riesgo/Payment conditions of the project creating a risky environment	0.760	1	27	0.736	3	17
5	Tiempo suficiente para preparar la oferta/Allowed duration for bid preparation being enough	0.658	7	68	0.576	10	85
6	Tipo de contrato del proyecto/The contract type of the project	0.675	5	61	0.630	6	65
7	Resolución de discrepancias que crean posibles riesgos para la empresa contratista/Dispute resolution process creating any possible risks for the contractor firm	0.580	9	87	0.619	8	69
8	Emisión de garantías, que posiblemente podría generar riesgos/Warranty issues, which might possibly create risks	0.678	4	59	0.697	5	35
9	Disponibilidad de pago anticipado para el proyecto/Availability of advanced payment for the project	0.714	3	43	0.621	7	67
10	Asuntos ambientales relacionados con el proyecto/Any environment issues related to project	0.562	10	90	0.602	9	74
Total		0.666		13	0.681		8

'Client and consultant of the project' group

This group was ranked the first important group in both decisions as shown in Table 9 with RII for bid/no bid equal to 0.802 and 0.772 for markup size decisions. The current financial capability of the client was ranked as the most important factor within this group in both decisions, as the most important factor in overall factors in bid/no bid decisions and the seventh important factor in overall factors in markup size decisions. Egemen and Mohamed (2006) found that this factor was the fifth important factor in overall factors in markup size decisions but not highly important in bid/no bid decisions. It is well known that many local projects are funded by different kinds of donors, and each of these donors has own procedures in managing the projects especially in financial management. The long experience of the local contractors with these donors made them rank the factors related to them as the second important factor within this group in bid/no bid decisions and as the fourth important factor in overall factors in the same decisions. This factor was also ranked high in markup decisions, being ranked as the 16th important factor among overall factors.

The history of client's payments in past projects (considering delays, shortages) was also considered as one of the ten most important factors in both decisions in this study, being ranked as the eighth important factor in overall factors in bid/no bid decisions and the third within the group in the same decisions. It was also ranked as the second important factor in markup decisions within the group and the ninth important factor in overall factors for the same decisions. Another factor in this group was ranked as one the ten most important factors in both decisions which is the client's attitude, characteristics and stability in needs. It was ranked as the tenth important factor in overall factors in bid/no bid and markup decisions. The results for this factor show that contractors consider it more important in bid/no bid decisions than in markup size decisions although it was ranked the same since the RII for bid/no bid was higher than markup. The other factors in this group were also ranked as high but not in the top factors.

Tabla 9. Grupo "Cliente y contratista del proyecto"
Table 9. 'Client and consultant of the project' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank
1	Capacidad financiera actual del cliente/The current financial capability of the client	0.870	1	1	0.784	1	7
2	Mandante del proyecto/The donor of the project	0.842	2	4	0.738	4	16
3	Historial de pago del cliente en proyectos pasados (considerando demora, escasez)/The history of client's payments in past projects (considering delays, shortages)	0.810	3	8	0.762	2	9
4	Actitud del cliente, características y estabilidad de sus necesidades/The client's attitude, characteristics and stability in needs	0.805	4	10	0.758	3	10
5	Actitud del consultor, características y facilidad para trabajar con él/The consultant's attitude, characteristics and the easiness to work with him	0.786	5	19	0.707	5	29
6	Envergadura de la red de relaciones entre las partes involucradas en el proyecto y la responsabilidad de coordinación entre ellas/The size of relationship reticulation among the concerned parties in the project and the responsibility of coordination among them	0.710	6	46	0.705	6	31
Total		0.802		1	0.772		1

'Economic conditions and instability' group

This group as shown in Table 10 was considered higher in markup size decision with average RII for markup size decisions of 0.716 and 0.700 for bid/no bid decisions. The most important factor ranked for both decisions in this group is one of the special issues in the local market arising from the political environment, security situation and the cargo crossing point situation. This factor relates directly to the current situation which has caused serious damage to construction industry in Gaza Strip because of repeated closure of crossing points which are controlled by others. This factor was considered as the second important factor in overall factors influencing markup size decisions and the ninth important factor in overall factors influencing bid/no bid decisions.

The other factor which also arises from the special issues in the local market is the instability of exchange rates in the country. Because of different types of donors, many types of money flow into projects, while the contractors only use local money to cover the cost of materials and labor. The instability of exchange rates usually imposes serious risks on contractors, hence it is ranked as the fourth important factor in overall factors that influence markup decisions and the 14th important factor in bid/no bid decisions, while being ranked as second important factor in both decisions within the group. Monetary and fiscal policy of the government against economic fluctuations was ranked as a very low factor in both decisions, being ranked as the last important factor within the group and the 88th important factor in overall factors in bid/no bid decisions and the 82nd factor in markup decisions. Contractors believe that the government does not have any policy against the economic fluctuations so they almost do not consider it in bidding decisions. The other two factors in this group which are risk due to inflation rate of tender currency (inflation and compensation methods) and risk due to the current inflation rate in the country were ranked the same in this group in both decisions and almost had the same RII; they were ranked as medium important factors in overall factors in both decisions.

Tabla 10. Grupo "Condiciones económicas e inestabilidad"
Table 10. 'Economic conditions and instability' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank
1	Riesgo debido a la tasa de inflación de la moneda en la licitación (métodos de inflación y compensación)/Risk due to inflation rate of tender currency (inflation & compensation methods)	0.680	3	58	0.680	3	43
2	Riesgo debido la tasa de inflación en el país/Risk due to the current inflation rate in the country	0.665	4	66	0.673	4	46
3	Estabilidad del tipo de cambio en el país/Stability of exchange rates in the country	0.794	2	14	0.797	2	4
4	Política monetaria y fiscal del gobierno ante fluctuaciones económicas/Monetary and fiscal policy of the government against economic fluctuations	0.565	5	88	0.584	5	82
5	Ambiente político, condiciones de seguridad y la situación del traspaso de la carga por la frontera/The political environment, security situation and the cargo crossing point situation	0.809	1	9	0.862	1	2
Total		0.700		8	0.716		4

'Availability of resources within the region' group

As shown in Table 11 this group was ranked as of low importance and that reflects the fact that the area of Gaza Strip is small so there are no problems in transportation of materials and laborers from one city to other. Most of the factors in this group were ranked the same in both decisions and none of the factors were considered highly important in both decisions. The first important factor in both decisions within the group was availability of required labor within the region, which may reflect the fact that it may incur extra cost and time to transfer them from one place to another and so contractors prefer to find them near their place of the daily operation. This factor was not considered highly important in overall factors in both decisions, compared to the rest of the factors in this group.

Tabla 11. Grupo "Disponibilidad de recursos dentro de la región"
Table 11. 'Availability of resources within the region' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank
1	Disponibilidad de mano de obra requerida dentro de la región/Availability of required labor within the region	0.684	1	55	0.654	1	52
2	Disponibilidad de materiales requeridos dentro de la región/Availability of the required materials within the region	0.647	2	71	0.613	3	71
3	Disponibilidad de Plantas y equipamiento requerido dentro de la región/Availability of required plants and equipments within the region	0.621	4	76	0.602	4	75
4	Condiciones de empleo de materiales locales/Conditions of using local materials	0.634	3	75	0.643	2	58
Total		0.647		14	0.628		13

'Laws and government regulations in construction' group

This group is related directly to government laws and regulations relating to the construction industry in the Palestinian Authority. There are 7 factors in this group that were expected to affect the bid decisions of contractors. While these factors are all regulations arising from the local authority, it is seen in Table 12 that most lose their efficiency because of their lack of application. Secondly, because they are mostly common to all companies, most contractors do not consider them when preparing bids. This group was ranked to be the last important group in bid/no bid decisions and the 15th important group among the 16 groups investigated in this study.

The first and second important factors in both decisions were related directly to the company's tax situation and the freedom of importing materials needed to complete the project. Tax policies of the government was rated as the first important factor in markup decisions (RII=0.686) and the 39th factor in the overall factors in the same decisions, while being the second important factor in bid/no bid decisions (RII=0.647).

Tabla 12. Grupo "Legislación y normativas del gobierno para la construcción"
Table 12. 'Laws and government regulations in construction' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank
1	Políticas y legislación relacionadas con licencias, permisos y aprobaciones en el país/The policies and legislation regards licenses, permits, approvals in the country	0.528	6	93	0.502	6	93
2	Legislación relacionada con reclamos y discrepancias, dentro del país/The laws related to claims and disputes within the country	0.563	5	89	0.578	4	84
3	Política tributaria del gobierno en el país/Tax policy of the government in the country	0.647	2	71	0.686	1	39
4	Políticas y legislación relacionada con las tarifas de salarios mínimos, dentro del país/The policies and legislation regarding minimum wage rates within the country	0.476	7	94	0.476	7	94
5	Cantidad de empleo de mano de obra no documentada, dentro del mercado/The amount of use of unregistered labor within the market	0.582	4	86	0.619	3	70
6	Aplicación general de efectividad de competencia en la licitación en proyectos de construcción/Overall application effectiveness of competitive tendering in construction projects	0.608	3	80	0.541	5	89
7	Libertad para importar materiales/The freedom of importing materials	0.687	1	54	0.671	2	48
	Total	0.584		16	0.582		15

This factor was ranked highly because each company has its own tax situation and all clients (especially public clients) ask for clearance papers in this regard. The freedom of importing materials was ranked as the first important factor in bid/no bid decisions (RII= 0.687) and the 54th important factor in the overall factors investigated in this study. It was ranked as second important factor in markup decisions and 48th important factor in overall factors. The other factors in this group were ranked to be of low importance among the overall factors studied in this research. There are two factors which were the last two important factors in overall factors in both decisions.

The last important factor in this study in both decisions was the policies and legislation regarding minimum wage rates within the country. This was ranked as 94th important factor, although there is a law in the Palestinian Authority which recognizes the minimum wages. The results shows that the contractors do not consider it at all since there is no follow up to such law and most of the labor work with companies without any contracts. The policies and legislation as regards licenses, permits, approvals in the country was ranked as the 93rd important factor in both decisions, which means that contractors do not consider it seriously, reflecting the fact that most of licenses and permits for the project are usually arranged by the clients. In previous studies, by Egemen and Mohamed (2006), Ahmad (1988), Shash (1993), Shash (1998) and Ling and Liu (2004), having studied some of the factors related to laws and government regulation, all of them found that such factors were ranked to be of least importance elsewhere too.

'Competition' group

Each company is tendering to win the contract, but to be awarded this contract they need to seriously consider the other competitors in the project. As shown in Table 13, this group consists of factors related to the competition in the current project. It is clear that this group influences bid/no bid decisions more than the markup decision, RII for bid/no bid was 0.779 and for markup was 0.721. The most important factor in this group in bid/no bid decision was the possible number of competitors passing the requirements (RII=0.797) which was ranked a highly important factor in the overall factors studied in this study, as 13th important factor in overall factors. This factor was also considered high in markup decisions, being ranked as second important factor within the group (RII= 0.743) and 14th important factor in overall factors studied.

Tabla 13. Grupo "Competencia (considerando solamente el proyecto actual)"
 Table 13. 'Competition (considering only the current project)' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank
1	Número probable de competidores que cumplen los requisitos/The possible number of competitors passing the requirements	0.797	1	13	0.743	2	14
2	Deseo de contratistas calificados de ofertar y ganar el proyecto/The desire of qualified contractors to bid and win the project	0.766	3	24	0.747	1	13
3	Disponibilidad de contratistas precalificados en la propuesta/Availability of prequalification for contractors in the tender	0.788	2	16	0.717	3	25
4	Modalidad de la licitación (oferta pública, invitación especial....etc.)/The method of bidding (open tender, special invitation, ... etc)	0.764	4	26	0.678	4	44
	Total	0.779		3	0.721		3

Availability of prequalification for contractors in the tender was the second factor in this group that encourages contractors to bid for projects since it enables contractors to have accurate ideas about the competitors. It was ranked as 16th important factor in overall factors in bid/no bid decisions. The same factor is considered less important in markup decisions; it being ranked as 25th important factor. The most important factor in this group influencing markup size decisions was the desire of qualified contractors to bid and win the project (RII= 0.747) which was ranked as 13th important factor in overall factors in same decision, and as 24th in bid/no bid decisions. The method of bidding was the last important factor within this group in both decisions, but it is clear that contractors consider it more seriously in bid/no bid decision.

The factors in this group were considered highly important in most previous studies. Ling and Liu (2004) studied competitiveness of other tenders and they found that contractors in Singapore ranked it as 3rd important factor in markup size decision. Shash (1993) studied the influence of three factors related to competitiveness in UK and he found that these factors have greater influence in bid/no bid decisions than markup size decisions. He found that the number of competitors was ranked as the second important factor affecting bid/no bid decision and he found the same factor to be the 28th important factor among the 55 factors studied. Egemen and Mohamed (2006) found that Turkish contractors consider the number of competitors and the desire of qualified contractors to bid as more important in markup size decisions; being ranked as first and fourth important factors respectively in markup size decisions. Ahmad (1988) found that US contractors consider the competition more important in bid/no bid decisions than markup size decisions, ranking it as 11th important factor in bid/no bid and 16th in markup size decisions among the 31 factors studied.

Category 3: Market conditions related factors

In this section the market conditions category was studied under two main groups which are "competition (considering only the current market conditions)" and "strategic considerations" which is further divided into four subgroups which are "foreseeable future market conditions and firm's financial situation", "client (considering long-term gains/losses)", "project (considering long-term gains/losses)" and "consultant firm (considering long-term gains/losses)".

Competition group (considering only the current market conditions)

This group was considered highly important in both decisions as shown in Table 14, being ranked as fifth important group in bid/no bid decisions ($RII = 0.719$) and sixth important group in markup decisions ($RII = 0.0691$) which shows that the contractors considered it more important in bid/no bid decisions than markup decisions. The first important factor within this group in both decisions was the amount of the profitable projects currently in progress within the market, being ranked as 12th important factor in overall factors in bid/no bid decisions and eighth important factor in markup decisions. Many projects being available in the market was considered a highly important factor in both decisions. This factor was only studied by Egemen and Mohamed (2006) and they found that the Turkish contractors consider it more serious in markup size decisions than bid/no bid decisions.

Two factors in this group had the same influence in bid/no bid decisions. These are the level of the winning offer mark-up in recent times in the market; and possible workloads of your major possible competitors during the project period. They both ranked as second important factor in bid/no bid decisions ($RII = 0.699$) and the 51st factor in overall factors in the same decision. The former factor was also considered highly important in markup decisions too, being ranked as second important factor within the group and the 36th important factor in overall factors studied in the same decision. The later factor was considered less important in markup; being ranked as last important factor within the group and the 66th important factor in overall factors. Threats due to new entrants into the market increasing competitiveness was ranked as the last important factor in bid/no bid decisions ($RII = 0.675$) and the 61st important factor in overall factors in the same decisions.

Tabla 14. Grupo “competencia (considerando sólo las condiciones actuales del mercado)”
Table 14. ‘Competition (considering only the current market conditions)’ group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank
1	Cantidad de proyectos rentables actualmente en desarrollo, dentro del mercado/Amount of the profitable projects currently in the progress within the market	0.801	1	12	0.777	1	8
2	Nivel de margen en ofertas ganadas recientemente, dentro del mercado/The level of winning offers mark-up in recent times in the market	0.699	3	51	0.695	2	36
3	Posibles cargas de trabajo que puede tener su competidor durante la duración del proyecto/Possible workloads of your mar possible competitors during the project period	0.699	2	51	0.630	4	66
4	Amenaza por la llegada de nuevos participantes al mercado, aumentando la competitividad del mercado /Threats due to new entrants into the market increasing competitiveness	0.675	4	61	0.662	3	50
Total		0.719		5	0.691		6

‘Foreseeable future market conditions & firm’s financial situation’ group

Table 15 illustrates that this group was considered of medium importance in both decisions. The influence of the group on both decisions was almost the same. This group is difficult to be considered in the local market because of the current political and security situation and the lack of long term plans for most clients. The factors in this group were also considered to be of medium importance in the overall factors. The most important factor in bid/no bid decisions was the amount of possible upcoming profitable projects out for tender in the near future (RII= 0.730) and was ranked as 34th important factor overall in both decisions and the third important factor in markup size decisions (RII= 0.699). Market’s direction (whether it is declining, expanding, etc) was ranked as the most important factor in markup decisions (RII= 0.732) and 18th important factor within overall factors in the same decision. It was also ranked as the second important factor in bid/no bid decisions (RII= 0.727) and the 37th important factor in overall factors.

Existing financial conditions indicating a financial risk in the near future was also considered highly important in markup decisions, being ranked as 20th important factor in overall factors (RII= 0.730) but was considered a medium important factor in bid/no bid decisions. The results also shows that companies do not have long term plans for their target market share, so they ranked the ratio of your firm's current market share to the expected or 'aimed share' as the last important factor in both decisions within the group and as the 78th important factor in overall factors in bid/no bid decisions and 73th important factor in markup decisions.

Tabla 15. Grupo "Predecibles condiciones del mercado futuro y situación financiera de la empresa"
Table 15. 'Foreseeable future market conditions & firm's financial situation' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank
1	Tendencia del Mercado (si está a la baja, en expansión, etc.)/Market's direction (weather it is declining, expanding, etc)	0.727	2	37	0.732	1	18
2	Cantidad de posibles proyectos rentables a licitar en el futuro cercano/Amount of possible upcoming profitable projects out for tender in near future	0.730	1	34	0.699	3	34
3	Situación financiera actual que indica un riesgo financiero, en un futuro cercano/Existing financial conditions indicating a financial risk in near future	0.723	3	40	0.730	2	20
4	Actual proporción de participación en el mercado de su empresa, en relación a la participación esperada o trazada/The ratio of your firm's current market share to the expected or aimed share	0.613	4	78	0.604	4	73
	Total	0.698		10	0.691		7

'Client (considering long-term gains/losses)' group

This group was considered more important in bid/no bid decisions than in markup decisions. It was clear that contractors prefer to work with some clients but were not ready to decrease the markup margins too much for that reason. As shown in Table 16, the contractors considered the relationship between the company and the decision makers in the owner's institution and the possibility of solving problems that may occur during work as the most important factor in both decisions and as the 21st important factor in bid/no bid decisions (RII= 0.781) and the 37th important factor in markup size decisions (RII= 0.693). The other factors in this group varied from medium to low importance in both decisions, while contractors do not value the effectiveness of recommendations received from the clients in any of the decisions, so they ranked it very low especially in markup decisions. These results illustrate that local contractors do not value strategic considerations with clients.

Tabla 16. Cliente (considerando pérdidas/ganancias a largo plazo)
Table 16. Client (considering long-term gains/losses)

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank
1	Cantidad de trabajo que el cliente desarrolla regularmente/Amount of work the client carries out regularly	0.727	3	37	0.665	2	49
2	Nivel de negocios reiterativos que el cliente ha venido desarrollando/The amount of repeat business level that the client been following	0.734	2	31	0.633	4	64
3	Posible efecto del cliente al proporcionar recomendaciones de mercados referidos/The client's possible effect by giving recommendations in referral markets	0.656	5	69	0.553	5	87
4	Relación entre la empresa y los tomadores de decisiones en la institución propietaria, y la posibilidad de resolver problemas que puedan ocurrir durante el trabajo/The relationship between the company and the decision makers in the owner's institution and the possibility of solving problems that may occur during work	0.781	1	21	0.693	1	37
5	Procedimientos generales del cliente para adjudicar el contrato/The client's general procedures to awarding the contract	0.720	4	41	0.660	3	51
	Total	0.724		4	0.640		11

'Project (considering long-term gains and losses)' group

Table 17 illustrate that the contractors in this group do not have any long-term strategic considerations. They ranked this group as the 12th important group in bid/no bid decisions and 14th important group in markup decisions. Most of the factors in this group varied from medium to very importance factors in both decisions. The only factor considered highly important in bid/no bid decisions was the project's possible contribution to increase the contractor firm's classification which was ranked as the first important factor within the group and the 18th important factor in overall factors in the same decision. However, this factor is not considered high in the markup decision; being ranked as the fourth important factor within the group and the 62nd important factor in overall factors. The fact that this factor is considered relatively important especially in the bid/no bid decisions arises from the rules of the contractors union for classification of companies, but it appears that other factors were much more important when it comes to markup size.

Contribution to firm's future due to value of the completed project to the public was one of the factors considered very low especially in markup; being ranked as one of the last five important factors. The contractors do not consider it high because there is no law or provision to recognize such contributions as in some countries. Results also show that the companies do not have any long term plan to improve the expertise of the staff, hence ranking factors related to staff as eighth and seventh important factors in the bid/no bid decisions and the 78th and 77th important factors in overall factors in the same decision. Also, they ranked them as sixth and seventh important factors in markup within the group and as 77th and 81st in overall rank in the same decisions. The other factors also suggested that there are no long term plans and strategic considerations for the companies in relation to the current project.

Tabla 17. Grupo "Proyecto (considerando pérdidas/ganancias a largo plazo)
Table 17. 'Project (considering long-term gains and losses)' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/Overall Rank
1	Posible contribución del proyecto a incrementar la clasificación de la empresa contratista/Project's possible contribution to increase the contractor firm's classification	0.787	1	18	0.636	4	62
2	Posible contribución del proyecto a incrementar y identidad de la empresa y a fortalecer la marca/Project's possible contribution to increase the firm's identity and brand strength	0.734	3	31	0.654	1	53
3	Posible contribución a aumentar la participación de la empresa en el mercado y su dominio de éste/Possible contribution in increasing firm's market share and dominance in market	0.675	6	61	0.587	8	80
4	Posible contribución a la creación de relaciones a largo plazo con otros actores claves/Possible contribution in building long-term relationship with other key parties	0.766	2	24	0.621	5	68
5	Contribución a mantener relaciones a largo plazo con importante influencia en el mercado/Contribution in maintaining long-term relation with important influence market	0.704	5	48	0.641	3	59
6	Posible contribución del proyecto a mejorar la experiencia del personal de su empresa/Project's possible contribution in improving your firm's staff expertise	0.613	8	78	0.593	6	77
7	Posible contribución del proyecto para entrar en un nuevo mercado de futuro productivo/Project's possible contribution to break into a new market with productive future	0.730	4	34	0.645	2	56
8	Contribución al futuro de la empresa debido al valor que da el público al proyecto terminado/Contribution to firm's future due to value of the completed project to the public	0.595	9	83	0.539	9	90
9	Posible contribución al mercado interno de la empresa (satisfacción de los empleados, etc.)/Possible Contribution to the firm's internal market (employee's satisfaction, etc.)	0.619	7	77	0.587	7	81
Total		0.691		12	0.612		14

'Consultant firm group (considering long-term gains and losses)' group

This group was considered of very low importance in this study, being ranked as the last important group in markup decisions and 15th important group among the 16 groups studied in this research (Table 18). The most important factor in this group in both decisions was the relationship between the company and the decision makers in the consultant's institution and the possibility of solving problems that may occur during work especially in bid/no bid decisions (RII= 0.689).

It was ranked as 53rd important factor in overall factors in bid/no bid but ranked as 79th important factor in overall factors in markup decisions (RII= 0.590). The consultant's possible effect by giving recommendations in referral markets was considered as the last important factors in overall factors in both decisions, being ranked as 91st in bid/no bid and 92nd in markup decision. This may reflect the fact that such recommendations will not be needed in most future projects. Another factor of low importance in overall factors in both decisions was the amount of construction work the consultant has been handling regularly, being ranked as 84th important factor in bid/no bid decisions and 86th important factor in markup decisions. The reason underpinning this is that most contractors do not interact with consultants in the tendering or awarding procedures.

Tabla 18. Grupo "Empresa consultora (considerando ganancias y pérdidas a largo plazo).
Table 18. 'Consultant firm (considering long-term gains and losses)' group

No.	Descripción de Factor/Factor descriptions	(I) Licitar/no licitar/(I) Bid / No Bid			(II) Margen de utilidad/(II) Markup Size		
		IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank	IIR/RII	Clasificación dentro del grupo/Rank within group	Class. General/ Overall Rank
1	Cantidad de trabajos en construcción que el consultor ha venido desarrollando regularmente/The amount of construction work the consultant has been regularly	0.594	2	84	0.561	2	86
2	Efecto posible del consultor al proporcionar recomendaciones sobre mercados referidos/The consultant's possible effect by giving recommendations in referral markets	0.544	3	91	0.511	3	92
3	Relación entre la empresa y los tomadores de decisiones de la institución consultora, y la posibilidad de resolver problemas que puedan ocurrir durante el trabajo/The relationship between the company and the decision makers in the consultant's institution and the possibility of solving problems that may occur during work	0.689	1	53	0.590	1	79
Total		0.609		15	0.554		16

Summary of groups in Bid/No bid and markup size decisions

Table 19 illustrates the importance of groups studied in this research. The first three important groups were the same in bid/no bid and markup decisions, which shows that these groups have great influence in both decisions. The first important group ranked in both decisions was the client and consultant of the project. Although it was ranked the same in both decisions, the results show that contractors consider it more seriously in bid/no bid decision ($RII=0.802$) than markup decision ($RII=0.772$). The outcomes of the factor analyses, both overall and within groups reflect that the first thing the contractors think about before deciding to bid or not to bid is the project client. The second important group in both decisions was project conditions contributing to profitability of the project but also with higher importance assigned in bid/no bid decisions ($RII=0.798$) than markup decisions ($RII=0.734$). The third group in both decisions was competition (considering only the current project), also with higher importance in bid/no bid decisions.

The sequence of the contractor's decision steps in bid/no bid decisions shows how the contractors actually decide, first deciding according to the identity of the client as to bid or not to bid, then evaluating the project profitability and later evaluating the competitors and the competition in the project itself. Although seeming a logical sequence, the strange point is that the need for work which must be the main objective in tendering was not included in the first three important groups. It was ranked in a low importance group, 11th in bid/no bid and 12th in markup decisions. This reflects the risk that contractors face in their work in the local market, i.e. that it is better for them to be without work than to be involved in risky work. This also shows that the running and overhead costs of the companies are not so high, while the cost of tender preparation is high. The results also show that the contractors have some strategic considerations when deciding to bid or not to bid; ranking the group client (considering long-term gains/losses) as the fourth important group.

Tabla 19. Resumen de grupos para las determinaciones de Licitar/No licitar y de Margen de utilidad.
Table 19. Summary of groups for Bid/No Bid and Markup size decisions.

No.	Descripción del grupo/Group's description	Licitar/no licitar/Bid / No Bid		Margen de utilidad/Markup Size	
		IIR/RII	Clasificación/ Rank	IIR/RII	Clasificación/ Rank
	Factores relacionados con la empresa/Firm related factors				
1	Necesidad de trabajo/Need for work	0.691	11	0.632	12
2	Fortaleza de la empresa/Strength of the firm	0.716	6	0.666	9
	Factores relacionados con el proyecto/Project related factors				
3	Condiciones del proyecto que contribuyen a la rentabilidad del mismo/Project conditions contributing to profitability of the project	0.798	2	0.734	2
4	Incertidumbre del proyecto/Project uncertainty	0.704	7	0.699	5
5	Complejidad del trabajo/Job complexity	0.699	9	0.660	10
6	Riesgo de crear condiciones contractuales de trabajo/Risk creating job contract conditions	0.666	13	0.681	8
7	Cliente y consultor del proyecto/Client and consultant of the project	0.802	1	0.772	1
8	Condiciones económicas e inestabilidad/Economic conditions and instability	0.700	8	0.716	4
9	Disponibilidad de recursos dentro de la región/Availability of resources within the region	0.647	14	0.628	13
10	Legislación y normativa del gobierno para la construcción/Laws and government regulations in construction	0.584	16	0.582	15
11	Competencia (considerando sólo el proyecto actual)/Competition (considering only the current project)	0.779	3	0.721	3
	Condiciones del mercado/Market conditions				
12	Competencia (considerando sólo las condiciones actuales del mercado)/Competition (considering only the current market conditions)	0.719	5	0.691	6
13	Condiciones futuras predecibles del mercado & situación financiera de la empresa/Foreseeable future market conditions & firm's financial situation	0.698	10	0.691	7
14	Cliente (considerando pérdidas/ganancias a largo plazo)/Client (considering long-term gains/losses)	0.724	4	0.640	11
15	Proyecto (considerando pérdidas/ganancias a largo plazo)/Project (considering long-term gains and losses)	0.691	12	0.612	14
16	Empresa consultora (considerando pérdidas/ganancias a largo plazo)/Consultant firm (considering long-term gains and losses)	0.609	15	0.554	16

Although most previous studies examined the factors without grouping them, the need for work was the most important factor; Ahmad (1988) found that the need for work was ranked by US contractors as the second important factor in bid/no bid decisions. Shash (1993) stated that the UK contractors considered it as the most important factor. Egemen and Mohamed (2006) also found that the need for work group was the most important group Turkish contractors consider this when deciding to bid or not to bid. The local contractors seem to agree with contractors in other countries as to the importance of the client's identity Shash (1993) found that it was ranked by UK contractors as the fifth important factor, while Ahmed (1988) found it was the third important factor affecting bid/no bid decisions.

The importance's sequence of groups in markup size decisions is almost the same as in bid/no bid decisions in the first three groups. Next, contractors evaluate the economic conditions and instability issues, being ranked as the fourth important group; with the fifth important group affecting the contractor's markup decision being project uncertainty. The previous studies also showed the degree of difficulty and uncertainty as highly important factors: Shash (1993) found that it was ranked as the most important factor by UK contractors and Ahmed (1988) stated that it was ranked as second important factor by US contractors. Results show that the local contractors manage the decision making procedure in different ways to those in other countries; dealing with such decisions as crises management scenarios, given that they work in very uncertain environments.

Summary of categories

Table 20 illustrates that the 'project related factors' category was considered as the most important category in this research in bid/no bid decisions ($RII=0.709$) and in markup decisions ($RII=0.649$). The second important category was the 'firm related factors' with slight differences from project conditions in bid/no bid decision ($RII=0.704$) but with larger differences in markup decisions ($RII=0.649$). The third important category was market conditions with almost the same difference in bid/no bid decisions ($RII=0.688$) and in markup decisions ($RII=0.638$). It is clear that the contractor thinks more seriously of bid/no bid decisions than markup size decisions since the lowest RII of 0.688 for market conditions was the same as the highest RII for markup of the project conditions. The results also shows that the project conditions and firm conditions together have great influence on bid/no bid decisions, since the difference between them can be neglected ($0.709-0.704=0.005=0.5\%$).

However, it is clear that when it comes to markup size decision, contractors consider the project more seriously than firm conditions since the difference was almost 3.9% ($0.688-0.649=0.039=3.9\%$), which indicates that project conditions have greater influence on contractors final markup decisions than firm conditions.

The same influence is repeated in the markup decisions with market conditions and firm conditions. The market conditions had low influence on bid/no bid decisions but when deciding markup sizes, it was ranked as third important category. The slight difference between the market and firm conditions shows that together they have almost the same influence on markup size decisions after the project conditions. The low importance of market conditions on both decisions reflects to the fact that almost all of the competitors consider it in the same light when preparing bids and since they all share the same market conditions, it can not differentiate between them significantly in both decisions, especially in bid/no bid decisions.

Tabla 20. Resumen de categorías para las determinaciones de licitar/no licitar y de margen de utilidad
Table 20. Summary of categories for bid/no bid and markup size decisions

Categoría/Category	Licitar/no licitar/Bid / No Bid		Margen de utilidad/Markup Size	
	IIR/RII	Clasificación/ Rank	IIR/RII	Clasificación/ Rank
Condiciones del proyecto/Project conditions	0.709	1	0.688	1
Condiciones de la empresa/Firm conditions	0.704	2	0.649	2
Condiciones del mercado/Market conditions	0.688	3	0.638	3

4. Conclusion

This paper presents the findings of a comprehensive questionnaire survey conducted among 77 general contractors in the Gaza Strip. The purpose of the survey was to identify a number of factors that affect bid decisions. Two sets of factors, with different rankings were identified: of which one which affects bid/no bid decisions and the other affects markup size decisions. Through interviews conducted with experienced contractors in the Gaza Strip and a literature review, a list of 94 factors was compiled and categorized according to various sub-goals existing in bid/no bid and markup size decisions. The overall results reveal that there is a distinct difference in the importance assigned to the factors for the separate decision processes.

For bid/no bid decisions, the most important factors were found to be mostly related to "client and consultant of the project" group and "project conditions contributing to profitability of the project" group. Four factors out of the ten most important factors were found to be related to the group of client and consultant of the project which are the "current financial capability of the client", "the donor of the project", "the history of client's payments in the past projects" and "the client's attitude, characteristics and stability in needs". Three factors out of the ten most important factors affecting bid/no bid decisions were found to be related to the group of project conditions contributing to profitability of the project, which are "project size (total bid value)", "terms of payment" and "project type". One of the ten most important factors was related to the group of "need for work" which is "the current financial situation of the company", and one was related to the group of "strength of the firm" i.e. "financial status of the company (working cash requirement of project)". Finally one factor was related to the group of "economic conditions and instability" i.e. "the political environment, security situation and the cargo crossing point situation".

In the markup size decisions, it was observed that three factors out of the ten most important factors were related to "client and consultant of the project". These are "the current financial capability of the client", "the history of client's payments in the past projects", and "the client's attitude, characteristics and stability in needs". Two factors were related to the group of "economic conditions and instability". These are "the political environment, security situation and the cargo crossing point situation", and "stability of exchange rates in the country". Two factors were under the group of "project conditions contributing to profitability of the project" which are "terms of payments" and "project size (total bid value)". The most important factor influencing markup size decisions i.e. "allowed project duration being enough" was related to the group of "risk creating job and contract conditions". The contractors also considered "the amount of changes expected throughout the execution of the project" as the fifth important factor influencing markup size decisions which is related to the group "project uncertainty". Finally, a factor related to the group of "competition (considering the current market conditions)" being the "amount of profitable projects currently in progress within the market".

The results reveal that the most important factors influencing bid/no bid decisions were different from markup decisions. However, the three most important groups in both decisions were the same. The contractors considered the groups "client and consultant of the project", "project conditions contribute to profitability of the project" and "competition (considering only the current project" as the three most important groups in both decisions. It was observed that all of the specified groups were related to the category of project related factors. The fourth and fifth important groups in markup decisions were also related to the category of project related factors which are "economic conditions and instability" and "project uncertainty". In bid/no bid decisions the fourth and fifth important groups were related to the category "market conditions/demand and strategic considerations" which are "client (considering long-term gains/losses" and "competition (considering only the current market conditions".

The results of this research also reveal that the identity of the client of the project is one of the most important factors which influence contractors' bidding decisions. Therefore it would be very helpful for contractors to have archived historical data about the clients of forthcoming projects, in relation to their special characteristics, payments records, stability and systems followed in awarding contracts and whatever else can relate to bidding decision. It was also observed that information about project competitors is very important to make better decisions. The contractor must have adequate knowledge about potential competitors in the market and insights into their attitudes, financial situations, amounts of their projects in progress, their strengths in various aspects of construction and their need for work. For this purpose, it would be very valuable to develop an archive about previous tenders and competitor prices even if the company did not bid for some of these projects, as this can help in developing competitor profiles.

Given these findings, local contractors are advised to clearly identify and define their objectives for the long-term especially those related to strategic considerations with clients, consultants, employees and brand name of the company. Based on this long-term plan they can prepare annual short-term plans to define the strategy of the company in relation to the financial capability of the company, profit objectives, and incorporating employee satisfaction. For some clients, the aim of this short-term plan is to decompose the objectives to sub-objectives which can be achieved separately or in stages in pursuing the aim of the long-term plan. The political environment, security situation and the instability in the exchange rate in the country are very important factors which influence bidding decisions, but most of the contracts do not consider such risks. So the clients are advised to add new conditions/ articles in the contracts that cover abnormal losses due to instability in the current situation, while relaxing onerous conditions which have proved to be prejudicial to contractors in the currently unstable political and economic situation.

Apart from the above specific benefits arising from the research, some indirect and wider benefits are also identified as follows: While this paper focuses on a jurisdiction with special problems, the research methodology that was developed and applied here, can clearly benefit researchers in other regions and countries. Also, while there are other regions suffering from conflicts where conditions may not be too dissimilar, different sets of critical factors are likely to emerge elsewhere. Furthermore, the international literature review as presented this paper also provides a broad base and launching pad for useful comparisons in both conceptualizations and practices.

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