

## **Use of Incentive Contracts in Turkish Construction Sector**

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### **Abstract**

Incentive contracts are widely used in the construction sector of the developed countries in an effort to decrease the costs or the project duration or to increase the quality and the performance of the final built facility. The ultimate aim is no doubt being a win – win result. This contract type is even widely used by the public sector in these countries. However, on the other hand this contract type is much less preferred in especially by the public authorities in the underdeveloped or developing countries. There are indeed numerous reasons about this fact. The objective of this study is to determine these reasons of non-preference through a survey conducted in Turkey. The findings of the study indicate that the public sector is somewhat conservative in using this type of contract while both the contracting and the consulting sector respondents believe that the use this type of contract will improve the business environment by reducing corruption and misconduct.

### **Keywords**

Contracts, Incentive Contracts, Turkey, Developing Countries

### **1. Introduction**

According to Uher and Davenport (2002), a statement reading as “*a valid contract is an agreement made between two or more parties whereby legal rights and obligations are created which the law will enforce*” will constitute a good definition for the term “contract” within law. In this context, a contract would imply that,

- the work will be completed within a reasonable time
- the payment will be made upon completion of the work
- the work will be done in a reasonably workmanlike manner (Uher and Davenport, 2002)

Indeed this means that the three pillars of the iron triangle, namely the scope, the budget and the schedule will all be reflected within a contract. Consequently, in today’s complex business and technology environment, there is a necessity to make contracts of different scope and characteristics that will answer the needs of the parties (Lock, 2007). Therefore there are many forms of different contract types which can be classified in various forms such as payment forms. In this context, incentive contracts have been devised to meet the needs of clients in need of a shorter duration, better performance, less cost or a combination of these factors. There are basically three types of incentive contracts, namely cost based, schedule based and performance based. Sometimes the contract depending on its complexity may contain one or more of these incentives. The mechanism of the incentive contracts is quite simple. The contract is designed such that the client (the party awarding the contract) pays a premium or a bonus to the contractor if the achieved targets are exceeded. The

bonus or the premium is usually determined based on the achievements on the targets, such shorter duration than the duration determined initially or lower cost than the initially agreed upon or determined. The ultimate aim is no doubt being a win – win result. Further reading on the subject can be found in numerous valuable publications made on the subject (Ashley and Workman, 1986; Bower et al., 2002; Fleming, 2003; Gilbreath, 1992; Gordon 1994; Hinze, 2001).

Incentive contracts are widely used in the construction sector and especially by the public administrations of the developed countries in an effort to decrease the costs or the project duration or to increase the quality and the performance of the final built facility. However, on the other hand this contract type is much less preferred in especially by the public authorities in the underdeveloped or developing countries. There are indeed numerous reasons behind this. Though some of the reasons may be arising from the business culture, some others may be due to the legal system.

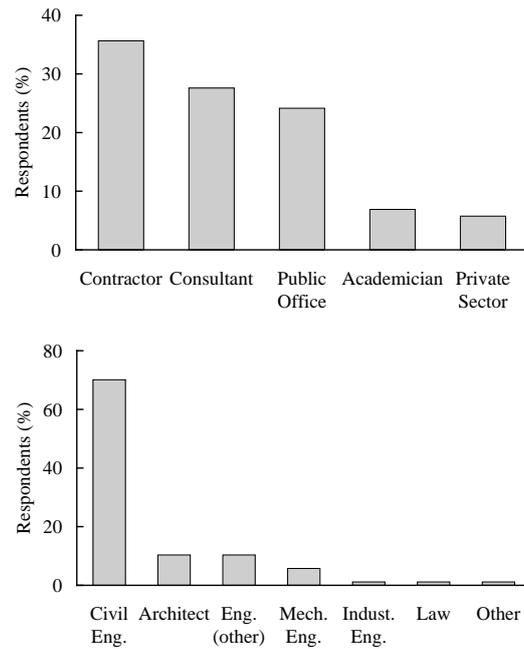
The objective of this study is to determine the reasons of non-preference through a survey conducted in Turkey with the intent to shed some light to the picture. Turkey is a fast developing country with a current GNP (Gross national product) per capita of slightly over 10.000 USD (TUIK, 2011). Hence with this level of GNP per capita, Turkey is considered being at the upper ranks of the developing countries. Yet the use of incentive contracting is very limited in Turkey. Except their use in some Build-Transfer-Operate projects, it can be stated that they are used very seldom. These two facts substantiate the Turkish case as a good case to study the subject topic.

## **2. The Survey and the Discussion of Results of the Survey**

The survey mentioned above has been conducted through a questionnaire. The questionnaire had consisted 28 questions in 4 sections (Sutemen, 2011). The questionnaires have been sent to persons at public offices, contractor companies, academicians, non-construction private sector companies (namely the investor companies such as industrial conglomerates) and consultant companies mainly working in the areas of project management and/or quality supervision. Out of 125 inquiries, 87 acceptable returns have been received. The results obtained from the survey will be presented below.

### **2.1. Section – I of Survey: Profile of Participants**

In this section of the survey, questions have asked to identify the profiles of the respondents. The affiliations and the professions of the respondents have been shown in Figure 1. As can be seen from Figure 1.a there is a good balance among the participants from the contractor companies, consultant companies and the public offices. On the other hand, the participation is quite low from the private sector companies. When the academician and the private sector companies are discarded from the participants, the remaining three sectors have fairly comparable portions in the data set, namely 41%, 31% and 28% for contractor companies, consultant companies and public offices respectively.



**a. Affiliation**

**b. Profession**

**Figure 1: Affiliations and professions of the participants**

Due to the lesser amount of participation from the private sector, in the latter parts of the study emphasis will be given to the use of incentive contracting in the public sector, i.e. the government sector.

According to the results presented in Figure 1.b, the majority (70%) of the respondents are civil engineers. In the construction industry in Turkey, it is quite common that the contracts are prepared, evaluated and administered by civil engineers in Turkey. It is quite seldom that, the lawyers get involved with the construction contracts, unless there is a dispute and/or a court case.

**2.2. Section – II of Survey: Profile of the Participants’ Organizations**

The organizations of the participants of the survey were asked and the results were shown graphically in Table 2. As shown in the Table, the organizations of the persons who responded the survey cover a broad range of entities involved in the construction activities. However, the majority of the respondents are members of either contractor companies that have contracts both in Turkey and abroad or members of project management companies. On the public side, majority of the entities are municipalities.

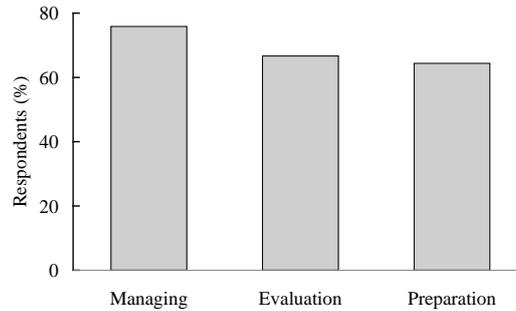
**Table 1: Organizations of the Persons Responded the Survey**

<b>Public Sector &amp; University</b>	Number	%
Ministry (or a department of a ministry)	1	1
Economic entity of a municipality	1	1
City Administration	5	6
University	5	6
Municipality	14	16
<b>Construction Sector</b>		
Investing Company (REIT's etc)	2	2
Construction Supervision	2	2
Contractor (Domestic contracts)	5	6
Design	5	6
Project Management	20	23
Contractor (International contracts)	21	24
<b>Other Private Sector</b>		

Industrial	3	3
Holding	3	3

### 2.3. Section – III of Survey: Experience of Participants

The participants were also asked about their experiences with contracts. The results obtained are summarized in Figure 2. It clear that, all the participants have some form or another experience with the contracts. As can be seen from the Figure, the respondents largely got involved in some form of contract activity, such preparation, evaluation or the management of a construction contract. Some of the respondents have experience in 2 or all the options in this question.



**Figure 2: Experience of Respondents with Contracts**

However, to a question about their knowledge on incentive contracting, 41% of the respondents stated that they have either limited or no knowledge about incentive contracts (Table 2). Such a result is quite expectable since the incentive contracting is practically not being used in Turkey. When the results were analyzed based on the sectors, it is clearly seen that the employees of the public entities have considerably less knowledge about the incentive contracts as compared to other entities. On the other it is worth to mention that together with the questionnaires, the respondents received an explanatory note about the incentive contracts.

**Table 2: Knowledge on Incentive Contracts**

	Contractor	Consultant	Public	Total
None	% 13	% 33	% 55	% 30
Very limited	% 13	% 13	% 10	% 11
Average	% 39	% 29	% 25	% 31
Good	% 29	% 13	% 5	% 18
Very good	% 6	% 13	% 5	% 9

The participants were also asked about how many times they have worked in an incentive contract environment, regardless as a client, contractor or consultant. 67% of the respondents stated that they had never worked with incentive contracts. Whereas, 7% of the respondents worked only on time in an incentive contract environment and the remaining 26% worked more than one time. 76% of those who have experience with incentive contracts have worked with incentive contracts in Turkey only. The remaining is split between the two groups, namely those who have worked with these contracts outside Turkey only and those who worked in both domestic and international projects.

Another question asked to the participants who were involved in an incentive contract was about the type of the contract. More specifically the basis of the incentive in the contract was asked. The answers were analyzed separately for those worked as a contractor and for those worked as a client (Table 3).

**Table 3: Incentive Contract Experience of Respondents**

	Contractor		Consultant		Public	
	Contractor	Client	Contractor	Client	Contractor	Client
Cost	% 33	% 29	% 14	0	n/a	% 50

Time	% 18	% 18	% 29	% 14	n/a	% 50
Performance	% 2	0	% 29	% 14	n/a	0

#### 2.4. Section – IV of Survey: Views of the Participants about Incentive Contracts

In this section the participants were asked to select five potential reasons that they deem is the reason for the public entities for not awarding incentive contracts. The answers were sorted in a descending order and tabulated in Table 4. The results from different interest groups, namely contractors, consultants and the public sector members were also tabulated separately (Tables 5a, b and c).

In the overall sample set, “Lack of reliable/healthy feasibility studies” received the highest number of votes. 59% of the respondents stated this is one of the potential reasons why public sector can not award these types of contracts. It is indeed true. Hence, without the existence of a reliable feasibility study, it is quite difficult (if not impossible) to talk about a schedule reduction and/or a performance increase.

The responses received were also analyzed separately for different interest groups. Naturally the views of each group were somewhat different than the other groups. The interesting answers came from the people from the consultant companies. Their number one choice was that “Clients already are determining the project duration very short”. This in turn means that there is especially very little or no room for a time based incentive contract. It is indeed very true that the construction durations are set quite short in Turkey.

**Table 4: Views of the Respondents on the Use of Incentive Contracts by the Public Entities**

Potential reasons	%
Lack of reliable/healthy feasibility studies	59
Absence of sufficient number of experienced and qualified independent supervision entities	45
The contracts being conducted through mutual relationships rather than professionally	41
Definitions of “Acceptance criteria” or “deficiencies” being broad and open to interpretation	33
Poor or insufficient specifications within contract documents	32
Win-win type of sharing culture has not settled in the society yet	31
Insufficiency in the quality and the quantity of supervising staff	30
Poor design drawings	29
Concerns of poor quality results	26
Insufficient definition of the completion date, consequently difficulties in its determination	25
Inexistence of sufficient relevant legislation	24
Perception of the construction cost as the final cost and disregarding the operational income as part of the cost in public projects	23
Insufficient allocation of funds for the projects	23
Clients already determining the project duration very short	21
This type of contract administration not known enough by the personnel of the public entities	21
Incentive contracts not being part of the tender law	20
Absence of a construction law in Turkey	18
Apprehension of accusation or investigation of the contract officer	18
Contracts being not sufficiently clear and understandable	15
Implementations/practices of Turkish Court of Accounts	9

**Table 5: Views of Different Interest Groups on the Use of Incentive Contracts by Public Entities****a. Views of Contractors**

Potential reasons	%
Poor or insufficient specifications within contract documents	%55
Absence of sufficient number of experienced and qualified independent supervision entities	%52
Perception of the construction cost as the final cost and disregarding the operational income as part of the cost	%48
Lack of reliable/healthy feasibility studies	%48
Poor design drawings	%45

**b. Views of Public Employees**

Potential reasons	%
Lack of reliable/healthy feasibility studies	%52
Absence of sufficient number of experienced and qualified independent supervision entities	%52
Definitions of “Acceptance criteria” or “deficiencies” being broad and open to interpretation	%48
The contracts being conducted through mutual relationships rather than professionally	%43
Contracts being not sufficiently clear and understandable	%38

**c. Views of Consultants**

Potential reasons	%
Clients already determining the project duration very short	%65
The contracts being conducted through mutual relationships rather than professionally	%61
Definitions of “Acceptance criteria” or “deficiencies” being broad and open to interpretation	%52
Win-win type of sharing culture has not settled in the society yet	%52
Perception of the construction cost as the final cost and disregarding the operational income as part of the cost in public projects	%39
Concerns of poor quality results	%39

Yet another problem or an extension of this problem is that the projects, especially those financed by the public entities are almost always delayed due to various reasons including short durations and lack of funds.

On the other hand the respondents from the contractor companies selected “Poor or insufficient specifications within contract documents” as number one cause, while the public sector group selected “Lack of reliable/healthy feasibility studies” option. Both groups selected “Absence of sufficient number of experienced and qualified independent supervision entities” as number two cause. At this point, it can be concluded that the answers basically reflect the problems in the construction sector of the developing countries, namely lack of proper design documentation and shortage of qualified personnel.

Corruption and misconduct is usually a major problem in the construction works in the developing and the under developed countries. Hence, two questions were asked about the potential effects of incentive contracting on the corruption and misconduct, and ethics in the industry. The results were summarized in Tables 6 and 7. The answers received to these questions reflect somewhat conflicting views. While the public sector employees seem believe that this type of contracting will increase corruption and misconduct in the sector, contractors and the consultants believe in the contrary. Contractors and consultants also believe that this type of contracting will have positive impact on the professional ethics in the sector.

**Table 6: Effect of Incentive Contracting on Corruption and Misconduct**

	Contractor	Consultant	Public	Total
Decrease substantially	% 16	% 8	% 5	% 9
Decrease	% 42	% 38	% 14	% 36
No change	% 23	% 33	% 38	% 29
Increase	% 19	% 21	% 33	% 24
Increase substantially	0	0	% 10	% 2

**Table 7: Effect of Incentive Contracting on Professional Ethics**

	Contractor	Consultant	Public	Total
Decrease substantially	0	0	0	0
Decrease	% 10	% 13	% 37	% 12
No effect	% 35	% 29	% 47	% 34
Increase	% 52	% 58	% 37	% 53
Increase substantially	% 3	0	0	% 1

Finally the participants were asked about, what their motivation would be if they have an opportunity to award an incentive contract. The results summarized in Table 8 again indicate different opinions from the different interest groups as well as from the overall sample set. While the respondents from the public entities preferred “cost savings”, “increased performance” and “increased quality” options at almost equal rates, contractors at a high rate preferred the “cost savings” followed by “shortened duration”. Whereas the persons from the consultants’ group preferred the “increase quality” option possibly with an aspiration to end or solve the quality problems which is quite common in Turkey as well as in the developing countries.

**Table 8: Motivation to Use Incentive Contracts**

Motivation	Contractor	Consultant	Public	Total
Cost savings	% 42	% 17	% 29	% 29
Increase performance	% 19	% 25	% 29	% 26
Increase quality	% 13	% 38	% 33	% 26
Shorten schedule	% 26	% 21	% 9	% 18

#### 4. Conclusion

A survey has been conducted to determine the views of the potential contract partners involved in the construction sector towards the use of incentive contracts. The survey was conducted in a developing country, namely Turkey. The findings of the study indicate that the public sector is somewhat conservative in using this type of contract. While, on the other hand, both the contracting and the consulting sectors’ respondents believe that the use of this type of contract will improve the business environment by reducing corruption and misconduct. Yet, absence of sufficient number of qualified personnel seems to be one of the major bottlenecks of the industry in utilizing this type of contract. As a conclusion, it can be stated that by the increasing level of education, which is also an indication of the development level of a country, the use of this type of contracts will increase. However, to arrive to a definite conclusion regarding the reasons about the non-preference of this type of contracts in the underdeveloped and developing countries more surveys should be conducted in countries falling into this category.

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