

TENDER RULES AND TRUST INFLUENCE ON CO-OPERATION IN THE BUILDING INDUSTRY

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ABSTRACT

The building industry has for many years been criticized for not having as efficient and effective co-operation as other industries. Some parties in the building sector try to use a new form of collaboration as i.a. partnering. In a big part of those partnering projects a good working relationship exists, the building owner is satisfied, the involved companies earn money and the project finish in time. A lot of projects do not use partnering or other new forms of collaboration. In these projects the general impression is that the parties in the building sector are fighting instead of co-operating. A questionnaire survey including building owners, contractors, suppliers, architects, engineers and client design advisor has been accomplished. The survey shows that the problem with co-operation among others is the way the tendering rules normally are used, where the normal assignment criterion is the lowest cost instead of the economically most advantageous bid. The involved parties do not always trust each other; the parties are not good enough at involving each other in the beginning of a project and the building sector is not ready enough for new forms of collaboration initiatives.

Keywords: assignment, co-operation, legislation, trust.

INTRODUCTION

The building sector is frequently described as conservative and tradition-bound, which according to critics results in little innovation, a not very efficient and effective cooperation and bad economy compared with other industries. (Akintola, et al. 2000, Cheung, et al. 2009, Dansk Byggeri 2006, Kadefors 2004, Wandahl, Cankaya et al. 2011)

Building projects involve to more or less extent a wide range of stakeholders. Some stakeholders can be one and the same person, others do not necessarily have a big influence on each building project, but they will be affected by the project. In the Danish case, the most essential stakeholders are the owner, the client design adviser, the architect, the engineer, the contractor and the supplier, who have the biggest influence on each building project, and they also have the biggest interest in the form of the project as it affects the economy in their companies.

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A traditional way of making a building project in Denmark is to organise it in five different phases: the planning phase, the project designing phase, the tendering phase, the construction phase and the operating phase respectively. This traditional way of organising a building project normally implies that some of the stakeholders are involved in the beginning of the project, others in the middle and the rest in the end of the project. This phase partition frequently results in none or a bad communication between the different stakeholders, which results in suboptimization of the economy. (Wandahl et al., 2007)

Until 2001 a Competitive Tendering Act existed in Denmark where you had to use price as criterion. This law still impact on part of the parties/stakeholders, therefore a big part of the building projects has seemingly put out to tender as a lowest price bid instead of an economically most advantageous bid. That again means that the parties are using traditional forms of contracts as contract awarded on a trade-by-trade basis, general contract and turnkey contract instead of using new forms of contracts as for instance partnering (Faber Ussing et al., 2011).

Another tradition in Denmark is to make one of a kind production. For a Dane it is important to have a building which differs from all other buildings, which results in new ways of building, often with a new composition of parties/stakeholders in the project.

Partnering and Lean Construction are some of the new ways of organising a building project to change the old traditional way of making a building project. Partnering and lean are ways where you try not to suboptimize on the economy but instead have common goals, a common vision, make the parties take common ownership and create a good communication between the parties involved in the project. (Ebbesen et al. 2007)

RESEARCH METHODOLOGY

The purpose of this paper is, by means of a hypothetical deductive method, to seek partly answer of the research question; *which contributory factors characterize the building sector as without good economy, efficiency and effective cooperation compared with other industries*. However, an inductive method is used in the survey. (Føllesdal, 2005)

Survey

To answer the research question two students from the M.Sc. in Construction Management at Aalborg University in Denmark have in their master dissertation conducted a questionnaire survey.

The idea was to use the most essential stakeholders: the owner, the client design adviser, the architect, the engineer, the contractor and the supplier as respondents in the survey. The respondents were intended to be selected with a comparative equal distribution between the six interest groups, and thus the respondents represent small, medium and large companies.

The survey was intended to be quantitative. Contact information was collected from 395 respondents in Denmark, whose designation of occupation fit in proportion to one of the six interest groups.

The survey is composed in SurveyXact which is an online analysis implement. The questionnaire was send to and accepted by 359 persons distributed as follows: 45 owners, 47 client design advisers, 68 architects, 74 engineers, 71 contractors and 54

suppliers. Hereof 163 respondents accomplished the questionnaire, 40 respondents partly accomplished the questionnaire and 156 did not answer the questionnaire.

The decision was only to use the 163 respondents who accomplished the full questionnaire. The grouping of the 163 respondents who accomplished was 21 owners, 31 client design advisers, 33 architects, 25 engineers, 36 contractors and 17 suppliers.

In the questionnaire the respondents first had to answer a question about which part they represent in the building sector. This was asked to be able to distinguish the subsequent questions according to which part the respondents represent. To the subsequent questions the Likert scale was used (Faarup et al., 2010). The questionnaire consists of 83 questions related to the research question; which contributory factors characterize the building sector as without good economy and without efficient and effective cooperation compared with other industries. Only the most unambiguous answers have been included in this paper.

FINDINGS AND DISCUSSION

Cooperating

Some of the questions in the survey were related to cooperating in the building sector. These questions shall clarify the respondents' general approach to cooperating in the building sector; if the respondents think it is possible to improve cooperation and find that good cooperation has an influence on a project economy.

The respondents were asked; 'To which extent do you think problems exist in the cooperation between the parties in the building sector?' The results in table 1 show that 63% of the respondents think problems exist in the cooperation to a great extent or a certain extent, but for the owners only 71% find that problems exist to a certain extent. Since the owner is a client in the building sector, the opinion of the owner is of paramount interest for cooperation.

Tabel 1. Cooperation between the parties in the building sector – To which extent do you think problems exist in cooperation between the parties in the building sector?

	Owner	Client design adviser	Architect	Engineer	Contractor	Supplier	Total
To a great extent	0,0% (0)	0,0% (0)	18,2% (6)	12,0% (3)	4,0% (1)	5,6% (2)	7,4 % (12)
To a certain extent	71,4% (15)	51,6% (16)	48,5% (16)	56,0% (14)	63,9% (23)	35,3% (6)	55,2% (90)
To a less extent	28,6% (6)	48,4% (15)	33,3% (11)	40,0% (10)	30,6% (11)	47,1% (8)	37,4% (61)
Not at all	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)
Do not know	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)
Total	21	31	33	25	36	17	163

Another question is; 'To which extent do you think it is possible to improve the cooperation?' To that question 39% answered to a great extent and 50% answered to a certain extent. Concerning cooperation and economy a question was; 'To which extent do you think that good cooperation has a positive influence on the project economy for the individual part of the building project?' To that question 66% answered to a great extent and 25% answered to a certain extent. This shows that cooperation is not optimal, but the respondents can see some opportunities and economic benefits by improving cooperation.

Matching of expectations

Another relevant topic is to find out to which degree the parties in the building sector match the expectations to each other in the project, obtain to a good cooperation without misunderstandings and mistakes.

Therefore the respondents were asked; 'To which extent do you think that matching of expectations between the parties in a building project can improve cooperation?' To that question 57% answered to a great extent and 33% answered to a certain extent.

The respondents all find that it is important to match expectations, but to the question; 'To which extent do you match expectations with the parties in a building project?' They are all asked this for every one of the five other parties. But the results of that question show, that even though they all find this important, they do not always carry it out in practice. The aggregate number for the parties is; Owner 78% to a great extent or a certain extent; Client design adviser 65% to a great extent or a certain extent; Architect 76% to a great extent or a certain extent; Engineer 70% to a great extent or a certain extent; Contractor 60% to a great extent or a certain extent; and Supplier 26% to a great extent or a certain extent. The disaggregate number shows the biggest match of expectations between the owner and the client design adviser, the architect, the engineer; a lower match between the advisers and the operating companies and the lowest match between the suppliers and all the others. The disaggregate number also shows that the suppliers think, they do a lower match of expectations to all others than all the other means they do the other way around.

Procurement rules

A topic of questions concern procurement rules. In this topic focus is on the influence of procurement rules on cooperation in the building sector, to which extent do the respondents think, that a change in the current procurement rules promote the cooperation between a building project's parties, and which assignment criterion is in the respondents opinion the most common for selecting parties in a building project.

The questions concerning procurement rules in table 2 shows that 61% find the procurement rules have a negative influence on cooperation in a building project to a great extent or a certain extent. The respondents were also asked; 'In which extent do you think that a change in the current procurement rules can promote cooperation between a building project's parties?' To that question 22% answered to a great extent and 36% answered to a certain extent. This shows that the main part of the respondents find, that the current procurement rules are not optimal, if a good cooperation is to be obtained.

Another question was; 'Which assignment criterion is in your opinion the most commonly used, when parties are selected for a building project? To that question 81%

answered, lowest price. This gives an indicator of that price and economy are very important for a lot of building owners.

Table 2. Procurement rules – To which extent do you think the procurement rules have a negative influence on cooperation between the parties in a building project?

	Owner	Client design adviser	Architect	Engineer	Contractor	Supplier	Total
To a great extent	23,8% (5)	12,9% (4)	15,2% (5)	12,0% (3)	16,7% (6)	35,3% (6)	17,8% (29)
To a certain extent	52,4% (11)	45,2% (14)	42,4% (14)	36,0% (9)	47,2% (17)	29,4% (5)	42,9% (70)
To a less extent	14,3% (3)	35,5% (11)	21,2% (7)	32,0% (8)	25,0% (9)	29,4% (5)	26,4% (43)
Not at all	4,8% (1)	3,2% (1)	6,1% (2)	12,0% (3)	8,3% (3)	0,0% (0)	6,1% (10)
Do not know	4,8% (1)	3,2% (1)	15,2% (5)	8,0% (2)	2,8% (1)	5,9% (1)	6,7% (11)
Total	21	31	33	25	36	17	163

Trust

Questions about trust in the building sector were a fourth topic in the survey. This topic was chosen to find out, to which extent the building sector is characterised by distrust, if trust can promote cooperation, and do the respondents think that it is possible to create more trust in the building sector.

One of the questions were; ‘To which extent do you think the building sector reflects distrust between the parties on a building project?’ To that question 18% answered to a great extent and 55% answered to a certain extent. The respondents were also asked to which extent they trust other parties in a building project. To that question the answers were; Owner 92% to a great extent or a certain extent; Client design adviser 75% to a great extent or a certain extent; Architect 88% to a great extent or a certain extent; Engineer 88% to a great extent or a certain extent; Contractor 59% to a great extent or a certain extent and Supplier 64% to a great extent or a certain extent. Those answers indicate some problems with trust between the parties in building projects. It also shows that the trust is highest between people who work closest together. It seems that trust is lowest between the parties in the construction phase. The answer shows that a big part of the owners (43%), the client design advisers (13%), the architects (42%) and the engineers (48%) have less trust to the contractor. The same is valid for the suppliers but not to such a explicit degree as for the contractors (owners 29%, the client design advisers 26%, the architects 24% and the engineers 48%)

The respondents were also asked; ‘To which extent do you find that trust has a positive influence on cooperation between the parties on a building project?’ To that question 79% answered to a great extent and 20% answered to a certain extent. Therefore it is important to create a trusting climate between the parties. Therefore the contractors and the suppliers have something to work with. Even if they just have a bad repu-

tation or there is a real problem; they are not as upright and trustworthy as others can wish.

Another question is shown in table 3. It shows that 76% of the respondents to a great extent or a certain extent find that it is possible to create more trust between the parties in a building project. It shows that there is a room for improvement of the trust level in the building sector.

Tabel 3. Trust in the building sector – To which extent do you think it is possible to create more trust between the parties in a building project?

	Owner	Client design adviser	Architect	Engineer	Contractor	Supplier	Total
To a great extent	9,5% (2)	9,7% (3)	24,2% (8)	8,0% (2)	36,1% (13)	17,6% (3)	19,0% (31)
To a certain extent	66,7% (14)	74,2% (23)	39,4% (13)	64,0% (16)	52,8% (19)	47,1% (8)	57,1% (93)
To a less extent	23,8% (5)	16,1% (5)	36,4% (12)	28,0% (7)	8,3% (3)	29,4% (5)	22,7% (37)
Not at all	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)	5,9% (1)	0,6% (1)
Do not know	0,0% (0)	0,0% (0)	0,0% (0)	0,0% (0)	2,8% (1)	0,0% (0)	0,6% (1)
Total	21	31	33	25	36	17	163

Reciprocal understanding and respect

The last topic was to find out how the respondents consider the degree of reciprocal understanding and respect between the parties on one another's work.

The respondents were asked; 'To which extent do you find that reciprocal understanding and respect have a positive influence on cooperating in the building sector?' To that question 67% answered to a great extent and 32% answered to a certain extent. So it seems to be important to have a big degree of reciprocal understanding and respect between the parties.

But there is a problem because to the question; 'To which extent do you have experience with that the different parties do not have understanding and respect for you as a part of the project?' The aggregate answers are as follows: Owner 32% to a great extent or a certain extent; Client design adviser 44% to a great extent or a certain extent; Architect 37% to a great extent or a certain extent; Engineer 38% to a great extent or a certain extent; Contractor 47% to a great extent or a certain extent and Supplier 20% to a great extent or a certain extent. The disaggregate answers show that the respondents find that the contractors and suppliers have the lowest understanding and respect of the others work, the number from the owners is 47%, the client design advisers 58%, the architects 46%, the engineers 56% and the suppliers 25% to a great extent or a certain extent on the Contractor. The similar numbers on the suppliers are from the owners 35%, the client design advisers 47%, the architects 53%, the engineers 47% and the contractors 55% to a great extent or a certain extent. This shows that there is a problem about reciprocal understanding and respect between the parties on one another's work, especially between the advisers and the operating companies.

CONCLUSION AND FURTHER RESEARCH

The purpose of this paper was to answer a part of the research question; which contributory factors characterize the building sector as without good economy and without efficient and effective cooperation compared with other industries. To answer a part of the question a questionnaire survey was made inter alia the topics cooperating, matching of expectations, procurements rules, trust and reciprocal understanding and respect. The most essential stakeholders in the building sector; the owner, the client design adviser, the architect, the engineer, the contractor and the supplier were respondents to get a wide sense of the opinion in the building sector in Denmark.

The results of the survey show that the parties in the building sector think, there are problems with cooperation on a building project. It was also widely agreed that it is possible to improve cooperation, and that a good cooperation has a positive influence on the project economy for the individual part in the building project. It shows that the Danish building sector is aware of the problems with cooperation, and they know that the problems must be addressed in future, hopefully with an economic benefit as result (Faber Ussing, 2010).

Matching of expectations is also important in the respondents' opinion. A good matching of expectations between the parties in a building project can improve cooperation, but the respondents are not very good at doing it themselves. The results show the biggest match of expectations between the owner and the advisers, a lower match of expectations between the advisers and the operating companies and the lowest match between the suppliers and all the others.

The tendering legislation has changed in Denmark, so since 2001 all public building projects are now assign to either the Tendering Rules in EU or the Danish Tender Law (looks like the Tendering Rules in EU). (Ussing, 2008) A lot of Danes find the Tendering Rules in EU very bureaucratic (Faber Ussing, 2010), compared to how the Danes normally act; therefore the respondents were asked if they find that the procurement rules have a negative influence on cooperation on a building project. The respondents find that the rules have a negative influence, but they also find that changes in the rules can have a positive influence on cooperation. Most of the respondents still use the assignment criterion lowest price, so instead of changing the rules, we could start by changing the assignment criteria from lowest price to the economically most advantageous bid, and use assignment criteria as good cooperating and trust to obtain a better cooperation with an economic benefit as result.

The respondents think that trust is important between the parties in the building project to obtain good cooperation. They also find that the trust in the building sector can be improved. Now the trust is highest between people who work closest together. It seems as if the trust is lowest between the parties in the construction phase. Therefore the contractors and the suppliers have something to work on. Even if they just have a bad reputation or there is a real problem; the other parties certainly think that the contractors and suppliers are not as upright and trustworthy as others can wish (Wandahl, Bejder et al., 2011).

Reciprocal understanding and respect goes hand in hand with trust. Therefore the results on that topic are not surprising. The respondents find that on high reciprocal understanding and respect are important to obtain good cooperation on a building project. But something which surprises is that even the respondents find a high reciprocal understanding and respect important, they do not have it in practice. As with the trust the other parties it means, that the contractors and suppliers have a low reciprocal un-

derstanding and respect of others' work. For the other parties the number in the survey is higher but not high enough to conclude that there is no problem.

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