IDENTIFICATION OF SUCCESS IN CONSTRUCTION PROJECTS IN UNITED ARAB EMIRATES

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ABSTRACT

Perception of success in projects is strongly interrelated with its context and industry. The research objective of this paper is to study the project success in the construction industry in United Arab Emirates. The research starts with the definition of the success criteria, followed by the statement of project success factors from the client's perspective in the construction projects in UAE. An introductory questionnaire, preceded by literature survey is used. The questionnaire targets a number of experienced project managers, asking them to identify project success and how to attain such success. The questionnaire is implemented and the results are analysed and compared to similar studies in other parts of the world. The survey shows trends of success perception which are on one hand reflecting similarity to the success criteria identified by international research, but also on the other hand revealing few success perceptions which are in a way unique to the construction industry in this country. More or less, a similar conclusion could be reported about the success factors.

The project success is perceived differently among various cultures. This perception is affected by many factors among which are: communication, culture and prevailing procurement methods. The identification of project success criteria for construction projects in United Arab Emirates may help to achieve a paradigm shift in the construction culture towards sustainability, and can form the foundation of research in other areas such as the role of project electronic communication management in attaining project success. The current research is intended to be a step in this direction.

Keywords: Construction Industry, Perception of Success, Project Communication Management, Project Success Criteria, Project Success Factors. United Arab Emirates.

1. INTRODUCTION

The Association for Project Management (2005) has defined Project success as the satisfaction of Stakeholders needs. The subject of project success in general has been researched and investigated by prominent researchers worldwide (Kerzner, 1998, Turner, 2002, and others), and the flow of research about the success factors from the project managers' perspective has been continuing since the 1960s till today (Fortune and White, 2005).
Success definition and measurement are considerably context oriented, i.e. very much related to the overall environment where the project is undertaken, accordingly this raises the importance of the cultural context (Beatham, 2004), in which it is demonstrated that in some cultures like the European environment where a considerable amount of research is invested, quite well developed models such as the criteria of the European Foundation of Quality Management (EFQM) Excellence Model (EFQM, 1999) have been developed. Some subjective indicators of success which are difficult to quantify have been researched (Hughes, et al 2004). Many research efforts have been concentrated on determining the success factors that have the greatest potential of change, considering the different contexts and in relation to the different phases of the project life cycle (Besner and Hobbs, 2006). The considerable amount of construction projects work in United Arab Emirates needs to be considered from the perspective of success criteria and success factors. A questionnaire directed towards well experienced professionals in this industry, and developed into structured interviews with some of them, aimed as a start to identify the perception of the success criteria from their own perspective and from the perspective of their organisations, and also to select what they regard as the most value adding success factors that can contribute to the success during the different phases of the project lifecycle. To raise the awareness of success criteria for construction projects in UAE is one of the objectives of this effort, an example of this move is when some of the responses reflect that professionals in this field are now listening more carefully to their customers, and care about their expectations and document lessons learned, similarly to what has been reported elsewhere (Forbes, 2001).

The paper starts by discussing the ontology of success in order to introduce the concept of success, success criteria and success factors to the UAE society, it then proceeds to present the methodology and the method, followed firstly by the by results of success criteria and secondly by results of success factors, A preliminary model is proposed and finally some conclusions and the way forward from this research are presented.

2. DISCUSSION ABOUT THE ONTOLOGY OF SUCCESS QUESTION

In order to present the question under consideration, introduce the concept of success, and whether it could be measured or not, who should measure and when, and also to differentiate clearly between success criteria and success factors, and prior to introducing the methodology;

Definition and Quantification of Success:
When someone is described to be successful, and in order to be more specific when it is mentioned that “he is successful in something” it is meant to say that –pragmatically speaking- success in achieving an objective. Accordingly, there are two factors that need to be considered in the definition of success:

1) An objective.
2) Means of measurement to tell how much of that objective has been achieved.
In literature the former is referred to as the "Project Success Criteria: The qualitative and quantitative measures by which the success of the project is judged" (Turner, 2002) and the latter as the Project Key Performance Indicators.

**How Can Success Be Achieved?**
What are those "knobs" that if turned "clockwise" or probably sometimes “anti clockwise” the possibility of achieving a higher success rate could be increased? For a school student, for example, it is simply said that if he spends more hours in studying, this will enhance the probability of him achieving success. Similarly the question for construction projects in United Arab Emirates or the Project Success Factors which are defined as the elements of the work of the project or the management process that can be controlled by the project manager or the project team so as to increase the chance of achieving success (Turner, 2002).

**Time of Judgment and Measurement:**
The way the success is considered and the results of this 'consideration' will differ depending on the time that measurement is made (Turner, 1999). For example, speaking about a prestigious construction project like the construction of a major shopping mall, if this measurement is done a year after the opening, it is the profitability which will supersede, while if measured probably 10 years later it might be the effect of that mall on the social system of values which must be considered and if measured 50 years later it is the sustainability and environmental consideration which may supersede. The matter is different if that measurement of success was done 'during' the construction of the mall. This variation is one of the reasons which pushes towards replacing the word "measurement" by the word "perception". Some researchers even suggest that success by itself should be considered as a "moving target", the attribution of success can vary considerably depending upon the time at which the evaluation is done, (Larsen and Myers, 2000).

**Who Is Making the Judgment?**
Is the owner of the mall, the operator, the 'constructor' team or is it the shopper, or even the whole society affected by the project that the question of success should be addressed to? Now surely it is not the intention to cover or - even try- in this paper the whole 'pool' or rather 'pools' of stakeholders, but rather try to put the question in the whole context as much as possible as we are trying to consider the largest possible 'system' and for different times. At the same time it is reiterated that the method of measurement and things to measure are evolving over time and are to an extent different depending on the 'observer' (Checkland, 2002). All of these considerations have been considered when elicitation of the information and knowledge needed for this research, and consequently led to the selection of methods.

**3. METHOD AND METHODOLOGY SELECTED**
We tried to be as systemic (Checkland, 2002) as possible in 'designing' this survey, implementing it, interpreting the results and modifying the research path as we go along. Starting with an open qualitative questionnaire addressed to professionals involved in the conceptualization, design, construction and implementation of construction projects in the Emirates of Abu Dhabi, this group was taken as a pilot group. After reviewing the outcome, it has been decided not to change the questions
but to change the tool to a more 'structural interview' type of survey with carefully
selected highly professional project managers starting with an introduction about
success and the way it is questioned.
A hundred people were contacted, out of which 32 responses were received; this
represents a 32% response rate which is appropriate for this type of research. The
investigation is still to continue both in interviewing more professionals and
interpreting the results using the soft system approach. In the next paragraphs the
results of success criteria and success factors are presented and discussed respectively.

4. INTERPRETING THE RESULTS- SUCCESS CRITERIA

Conducting this survey in this environment for the first time, it has been the authors'
objective not to restrict the respondents to any previously stipulated list of success
criteria done elsewhere. It is one of the objectives of this survey to let as much as
possible the respondents to open up and enrich the list of success criteria with new
thoughts from their own experience.
Using an open qualitative survey has two difficulties associated with it:
  • Respondents need more time to answer the questions, which reduces
    the tendency to respond.
  • Difficulty in analyzing the results.

Turning it to an interview after piloting it, has helped in overcoming the former, while
repeating the analysis has been efficient in overcoming the latter by going through the
outcome many times, trying to understand the perceptions rather than to quantify
them. It will definitely be worth it to make a new research in the future trying to
conduct more interviews and build relations between what the interviewee consider as
success criteria and his own position in the firm, and establish a dynamic system
model.
Baker, et al 1988, concluded that "If the project meets the technical performance
specifications and/or mission to be performed, and if there is a high level of
satisfaction concerning the project outcome among key people in the parent
organization, key people in the client organisation, key people in the project team, and
key users or clientele of the project effort, the project is considered an overall
success". This conclusion did not consider the time factor about when to make that
judgment. They also state that "Perceptions play a strong role in this definition" i.e.
definition of success is highly subjective.

Presenting the Results
Figure 1–a summarises the results obtained regarding the perception of success
criteria. The graph in figure 1-b is not intended to show the "weight" but it is only an
indication of the respondents perceptions, some of the criteria even perceived by few
only, but still is as important as the others, as the purpose is to capture the perception.

Comparison with Published Research:
Comparing with some of the published literature (Wateridge, 1995, and Turner, 2002)
we notice similarity in many of the criteria, but it is believed that the current survey
captured some new criteria or some times new ways of specifying them. As an
example of the former is the claim avoidance criterion and an example of the latter is
the capability to use the project as a marketing tool for the project team (could be the
A similar kind of perception was expressed by Forbes, 2001 which points out an area of interest that has been traditionally underestimated in the construction industry.

<table>
<thead>
<tr>
<th>List of Perceived Success Criteria</th>
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<tbody>
<tr>
<td>• Time</td>
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<tr>
<td>• Quality</td>
</tr>
<tr>
<td>• Cost</td>
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<tr>
<td>• No Claim</td>
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<tr>
<td>• Well Defined Objectives</td>
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<tr>
<td>• Goal Attainment</td>
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<td>• Minimum Variations during Construction</td>
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<td>• Value to Client</td>
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<td>• Maintaining Relationships</td>
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<td>• Integration</td>
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<td>• Response to Changing Circumstances</td>
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<td>• HSE Maintained</td>
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<td>• Client Support during Implementation</td>
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<tr>
<td>• End User Direct Input during Concept and Design Stages</td>
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<td>• End User Satisfaction</td>
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<td>• Client Needs Satisfaction</td>
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<tr>
<td>• Cohesive Team of Stakeholders</td>
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<tr>
<td>• Transparency</td>
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<tr>
<td>• Project Manager's Risk Awareness</td>
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<tr>
<td>• Low Maintenance Cost</td>
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<tr>
<td>• Few Snags at Handing Over</td>
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<tr>
<td>• Revenue</td>
</tr>
<tr>
<td>• Project could be used for Marketing of Project Organisation</td>
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<tr>
<td>• Profitable for Project Organisation</td>
</tr>
<tr>
<td>• Tender Prices were Close to Estimates</td>
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<tr>
<td>• Orderliness of Construction Site</td>
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<tr>
<td>• Organised Communication during Design</td>
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<tr>
<td>• Organised Communication during Construction</td>
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<tr>
<td>• Consideration of All Bids in the Tender</td>
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<tr>
<td>• Material Approval Submittals on Schedule</td>
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<td>• Clarity of Project Specifications</td>
</tr>
</tbody>
</table>

Figure 1-a: List of Perceived Success Criteria
5. INTERPRETING THE RESULTS - SUCCESS FACTORS

Issue of success factors has been researched worldwide (Fortune and White, 2005). Most of these factors can be more objectively monitored and controlled, but their importance and significance show varying levels of priority during different stages of the project lifecycle, which opens the door again for some degree of subjectivity.

In the questionnaire about success factors, the construction projects surveyed were divided into 3 phases; planning and design phase, procurement phase (tendering) and construction phase, (as this is the dominant division in the construction industry practice and culture in United Arab Emirates. Therefore in order to elicit the thoughts,
it has been decided to follow the trend rather than to be followed) success factors (SF's) captured at the three stages are listed as follows:

**SF's During Design:**
- Well Defined Scope.
- Continuous Workshops and Work sessions with Client.
- Good Design Team.
- Milestone Reviews with End-User on board.
- Good Guidelines for the Design Product.
- Well Defined Space.
- Team Building.
- Time Frame.
- Market Research.
- Configuration Management of Design Deliverables.
- Establishing Project Strategy.
- Sufficient Relevant Data.
- Agree Responsibility Matrix for all Stakeholders.
- Timely Approvals.
- Coordination.

**SF's During Construction**
- Top Management Support (Project Team Organisation).
- Change Management.
- Communication Management and Document Control.
- Strong and Sufficient Project Management and Technical Teams.
- Configuration Management.
- Lessons Learned.
- Reduce Obstacles.
- Reasonable Schedule Approved.
- Competent & Sufficient Team of Project Management & Technical.
- Ensure adequacy and Continuity of Contractors Resource.
- Timely Issue Attendance.
- Risk Management.
- Management of Existing Services.

**SF During Tendering**
- Well Defined Procurement Strategy
- Communication Management
- Configuration Management.
- Well Selected Bidders.
- Sufficient Time to Tender.
- Transparency.
- Pre Tender Conference.
- Selection Criteria.
- Completeness and Correctness of Tender Documents.
- Consider Prevailing Laws.
Comments on the Success Factors Elicited
A considerable degree of similarity & matching with most of the literature surveyed has been noticed (Baker, et al 1988, Pinto and Slevin, 1988, and Ling and Liu, 2005). Some interesting success factors were captured in particular to construction industry in transportation (highways and alike), in which the removal of obstacles and management of existing services was considered by many professionals as one of the main success factors. Noted down also was the obtaining of timely approvals which is of paramount importance in the field of construction industry.

Importance and awareness of communication management among project stakeholders during all phases is increasingly manifesting in many aspects as the most dominant success factor (Diallo and Thuillier, 2005), and it could also be implicitly detected as underpinning most of the other success factors.

In general, the survey can be described as being successful in capturing extremely useful success factors very much relevant to the construction industry in Abu Dhabi, which could be described as a treasure of lessons learned.

The listing of some of the success factors elicited is speaking for itself, but it will definitely be worth much deeper analysis and further explanation through more in depth interviews in which the authors most willingly and eagerly are planning to conduct in the future.

6. FURTHER DISCUSSION AND MODELLING:
Thinking in terms of 'action research' the survey (in addition to introducing the subject to decision makers in the construction industry, distributing the questionnaire and conducting the interviews) has been successful to an extent in creating the awareness about project success, and the importance of considering it at the initiation stage, in order for all stakeholders to agree on the success criteria early in the project.

Good communication could be considered as an early key performance indicator which raises the potential of project success (Pinto and Slevin, 1988, and Diallo and Thuillier, 2005).

Some of the points were raised by only few of the respondents, but considered very highly such as maintaining client satisfaction during project design and construction stage.

Procurement method used in the project environment together with the organization of project stakeholders, and the communication channels between those stakeholders, during and after the procurement process, all of these factors have a major effect on the way project success is perceived, see figure 2.
7. SUMMARY AND CONCLUSION

It is believed that the survey conducted in the course of this research has been successful in confirming the results of worldwide research in the field of project success criteria, and in capturing relatively 'new' success criteria related to project context in the construction industry in United Arab Emirates, an example is the consideration of "No claim" at the end of the project and the potential of marketing the performance of a particular project as success criteria. Furthermore, some conclusions reached in the analysis of the survey are similar to those conclusions arrived to by APM and other researchers indicating that "success criteria must be agreed with stakeholders during the concept phase" and that it "requires quantitative measures against which to judge their success". The results of the survey in the field of success factors showed a similar trend when compared with the published research, but the respondents expressed different patterns of prioritizing the success factors during various phases of the project lifecycle.

The current research will be extended with a survey that applies a dynamic model which shows the interaction between the electronic communication management among the project stakeholders and the perception of success in the project context.
8. REFERENCES

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