



COST-TRUST RELATIONSHIP

The purpose of this publication is to make available to industry the results of research conducted by the Construction Industry Institute (CII). The publication does not necessarily represent the views of CII member companies, but is offered as a contribution to the industry.

CII was founded in 1983 to improve the cost effectiveness of the nation's largest industry. The members, who represent a broad cross-section of owners and contractors, believe that many of the problems that limit cost effectiveness are common ones, and that real improvements can be best accomplished in a cooperative environment with the benefits being shared by the construction industry at large.

CII uses the acronym TOPICS to describe the research effort. TOPICS signifies the six research thrust areas: Technology, Organization, People, Information, Controls, and Sigma (meaning others). The task forces for each area are listed below.

Technology

- Advanced Technological Systems
- Computer Integrated Design & Construction
- Design for Safety
- Environmental Remediation Technology
- Modularization
- Technology Strategy

Organization

- Partnering II
- Project Change Management
- Project Organization II
- Pre-Project Planning
- Project Team Building
- Project Team Communications

People

- ADA Impacts
- Continuing Supervisory Education
- Zero Accidents

Information

- 3D CAD Link
- International Construction
- Owner Engineering Organization

Controls

- Contracting, Phase II
- Dispute Prevention and Resolution
- International Standards
- Predictive Tools
- Quality Performance Measurement
- Schedule Reduction
- Total Quality Management

Sigma

- Barriers to Implementation
- Insurance
- Piping Function
- Retrofit Projects
- U.S. Navy Demonstration Project
- Utility Pilot Projects
- Workers Compensation

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Executive Summary

Trust is believed to be a factor in reducing project costs, while a lack of trust in business relationships is thought to be related to inefficiencies and increased project costs. Based on CII research data from 262 projects, the intuitive notion that mutual trust and project cost are correlated is now statistically supported.

In the construction industry, it is important to foster cooperation among project parties. Concepts such as partnering, team-building, cooperative alliances, and alternate dispute resolution are actively promoted by CII. These concepts are becoming increasingly embraced to increase the level of cooperation between project participants.

One of the basic elements of a cooperative relationship is mutual trust. Trust is a salient factor in determining the effectiveness of many relationships. It facilitates interpersonal acceptance and openness of expression. A trusting relationship between the parties is based on a mutual understanding of each other's capabilities and limitations. It is also based on the personal and corporate integrity of both parties. Trust is a basic ingredient in effective team-building, timely decision-making, and in building long-term relationships.

The CII Contracting Phase II Task Force has conducted research on the relationship between the trust between the parties involved in a construction project and project cost. The task force defines trust as: "the confidence and reliance one party has in the professional competence and integrity of the other party to successfully execute a project in the spirit of open communication and fairness."

The research identified a list of trust indicators that represent areas of activity in the contracting process where a trusting behavior between the parties can be observed and is important in achieving project objectives. Implemented in a computer program, the research allowed the task force to examine different aspects of trust and the corresponding cost impact on the project.

The research identifies those aspects of the relationship between the parties that provide the greatest project cost savings. Those having the highest cost impact primarily relate to open and honest communications, the professional competence and integrity of the parties, and the willingness to adapt and implement changes for the betterment of the project.

Introduction

Background

The CII Contracting Phase II Task Force was established in 1989 to extend the work initiated by the original CII Contracts Task Force. The purpose of the second task force was to seek internal agreement on means of minimizing common liabilities and to recreate a sense of trust between contracting parties in the construction industry.

The task force developed the methodology to establish a trust scale. Data came from 262 projects, mostly through a computerized survey, and involved 132 owners and 130 contractors of design, construction, and other construction related services. From this data, a statistical correlation between cost and trust was established. Finally, a “benchmarking” analysis was conducted from a selected set of 180 projects that identified trusting behaviors having significant impact on project cost.

Objectives

The objective was to determine what aspects of the contracting process affect mutual trust and project cost, and thus bring a “step change” in the reduction of project cost while maintaining project quality. The optimum cost-trust relationship will be measurable and attainable through the effective use of trust indicators.

The specific objectives of the study were to:

- Identify a set of indicators that promotes development of mutual trust between contracting parties.
- Develop a methodology that could be used in establishing a trust scale.
- Develop a methodology that could be used in measuring cost in relation to trust.
- Determine the level of correlation between cost and trust.
- Identify specific behaviors that could be modified to increase trust and reduce costs.

Trust

Definition of Trust

The word “trust” has many different definitions and connotations. As the first step in the research, the word “trust” had to be defined. A wide variety of definitions were reviewed, and it was agreed that for the purpose of research trust is defined as:

“the confidence and reliance one party has in the professional competence and integrity of the other party to successfully execute a project in the spirit of open communication and fairness.”

Trust in the professional competence and integrity of the parties can be summarized in the following perceptions:

- A belief that both parties will do what they have said they will do.
- A willingness for both parties to risk being vulnerable to the other, supported by the belief that neither party will take advantage of the situation.
- Sensitivity and active dedication to each other's needs.
- Candid communication about how each sees the relationship.

Rational Trust

Intuitively, the relationship between trust and project cost can be conceptualized by the curve shown in Figure 1. As trust increases, the cost of the project decreases. The optimum or least project cost point on the cost-trust curve is defined as “rational” trust. Rational trust represents the highest level of mutually verifiable trust between the parties. Beyond the point of rational trust the relationship enters into the “blind trust” area.

The research did not attempt to measure or identify any characteristics of trust that extended beyond rational trust. The placement of each owner or contractor position on this curve depends on corporate philosophy, business objectives, principles, or practices. If owners or contractors wish to change their position

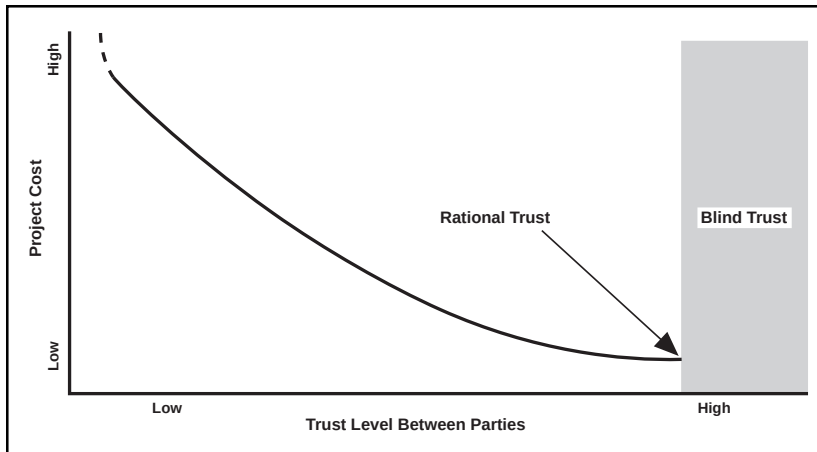


Figure 1. Conceptual Cost-Trust Curve

on the curve, then this study can help identify those activities that will cause the owner's or contractor's position to shift towards the rational trust point.

Trust and Relationships

In the construction industry, the nature of competitive contracting practices often promotes short-term (project driven) adversarial relationships. These types of relationships are unstable, which adds to project uncertainty. Under these circumstances, the contract document, complemented by control systems and legal personnel, seems to be an element the industry relies upon to control project uncertainty.

A contract document formalizes a promise to deliver a product. The agreement defines the roles of the parties, and establishes procedures in case of certain eventualities or lack of performance. However, no contract can detail every eventuality nor provide for every conceivable contingency.

Control systems can be used effectively to promote organizational and individual behavior to attain project objectives. They can also be used effectively to forecast or anticipate events with undesirable project consequences. However, the effective design and implementation of control systems is a complex task that, if not properly executed, may promote unanticipated negative results.

A cooperative relationship between the parties is considered instrumental in reducing project uncertainty and increasing the chances for project success. The development of an effective cooperative relationship is based on mutual trust. Trust is a salient factor in determining the effectiveness of many relationships. It facilitates interpersonal acceptance and openness of expression. A trusting relationship between the parties is based on a mutual understanding of each other's capabilities and limitations. It is also based on the personal and corporate integrity of both parties. Trust can be seen as the lubricant that makes it possible for organizations to work. The same could be said for intergroup relations. Trust plays a critical role both within organizations and in intergroup relationships. The term "trust" can be used to refer to many facets of a relationship, for example:

- How much confidence you have in the other party's competence and ability to do what is being asked of them
- How sound you believe the other party's judgment is
- How much you believe the other party is willing to help you
- How certain you are that the other party does not desire to harm you.

Measuring Trust

Trust Indicators

The level of mutual trust that exists between two contracting parties can be measured through trust indicators. These trust indicators represent areas of activity in the contracting process where a trusting behavior between the parties can be observed and is important in achieving project objectives.

Trust indicators can be identified by asking the question, “If we trust each other, we will:

- Share more information, and/or
- Give up more control to the other party, and/or
- Be influenced by the other parties’ suggestions”

The research has identified a total of 15 major trust indicators that can be observed at different stages of the engineering, procurement, and construction of a project. The level of trust observed for each trust indicator is evaluated independently of the others. The aggregate of trust observed in all trust indicators determines the overall level of mutual trust for the project. Table 1 (see pages 6-7) shows the trust indicators.

Trust Evaluation System

Trust was evaluated by developing questions that measure trust through three “trust conditions,” namely openness, flexibility, and fairness. Table 2 (page 8) presents an explanation of these conditions.

The conditions of trust are tested through different stages of the contracting process as defined by the trust indicators. Table 3 (page 9) shows a list of the detail areas addressed by the trust indicators.

Table 1. Trust Indicators

Trust Indicator	Description
PROJECT OBJECTIVES	Entails the sharing and discussion of owner project objectives early in the planning process with all project participants in order to establish clear attainable goals at the outset.
CONTRACTOR SELECTION	Examines the process by which the owner's project team identifies a firm (sole source) or several firms (multiple candidates) that have the capabilities and resources to do the job.
SCOPE DEFINITION	Relates to the aspects of how each party is responsible for explaining/detailing all requirements and expectations relative to scoping on a project and the fair assignment and resolution of scoping differences on a project.
ENGINEERING & PROCUREMENT	Addresses the willingness of parties to openly communicate and discuss ideas and information during the engineering and procurement stages of a project, which can have a significant impact on the overall project cost.
OPEN CONTRACT NEGOTIATIONS	Addresses the issues of potential negotiated awards, limited or no competition professionalism of negotiators, authority of negotiators to bind their respective companies; willingness of parties to reach a win/win solution.
ROLE OF THE CONTRACT	Deals with aspects of the contract and how it is administered: areas such as enforcing the intent rather than the letter of the contract, interpretation of a contract on a mutually agreeable basis, and flexibility to start work without a signed contract
FINANCIAL STABILITY	Relates to open discussion of circumstances that call for bonding and contract securities and to the potential modifications of bonding and contract securities requirements.

RISK ALLOCATION	Involves issues such as fair risk assignment, relief from unknown site conditions, insurance costs, coordination, delays, force majeure, and contingencies.
EARNED INCENTIVES	Involves the use of incentives, their value and impact on a given contract, the setting of attainment levels and definitions within the measurement process, the flexibility of project participants, and the consistency of interpretation of results.
COMMUNICATIONS	Addresses specific aspects of communication during project development such as response time, openness between parties, efficient use of both written & verbal communication, tone & formality, identification of critical project issues, and hidden agendas.
QUALITY	Addresses the issues of how quality is integrated throughout every aspect of the project. Areas such as subcontractor and supplier programs, establishment of requirements and benchmarks commensurate with conditions and processes.
FINANCIALS	Focuses on financial administration matters during a project's lifecycle such as prompt invoicing and payment procedures, retainage amount and time of release, and cash flow.
DOCUMENT APPROVAL	Addresses the issues of level of detail on approvals and the openness and flexibility of the parties to discuss and modify procedures for document approvals.
CHANGE ORDERS	Attempts to tie trust to the ease, timing, expediency, amount of documentation, and level of approval regarding change orders settlement on a project. The number and value of changes to a contract are also considered.
CONFLICT RESOLUTION	Addresses the issues of establishing a formal conflict resolution process, dispute avoidance, time, effort, and expense relative to settlement of disputes and claims, and the fairness perceived by the parties in conflict resolution.