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V.Pattammal, Research Scholar, PG & Research Department of Commerce, Khadir Mohideen College, Adirampattinam-614701, Tamil Nadu, India

*Corresponding author
Dr. A. Peer Mohideen, Associate Professor, Research Advisor, PG & Research Department of Commerce, Khadir Mohideen College,Adirampattinam - 614 701. Tamil Nadu, India

Research Article **Commerce**

A study on risk factor involved in the construction industry

Dr. A. Peer Mohameed* and V. Pattammal

ABSTRACT

Construction becomes the basic input for socio-economic development of any country. The construction industry generates substantial employment. Construction industry is highly risk prone, with complex and dynamic project environments creating an atmosphere of high uncertainty and risk. The industry is vulnerable to various technical, sociopolitical and business risks. The track record to cope with these risks has not been very good in construction industry. As a result, the people working in the industry bear various failures, such as, failure of abiding by quality and operational requirements, cost overruns and uncertain delays in project completion. Like any other business, failure of construction companies is also very common. This issue has also been overviewed by Incompetence, lack of experience, newness, smallness and financial handicap are the few reasons cited for such failures. Government agencies have direct interference in construction activity right from acquisition of land to commissioning of the project completion. This study helps to understand the role of construction sector in Indian economy, peculiar characteristic, risk factor, knowledge map, reason to failure of construction industry and the government role for the development of construction industry.

Keywords: Construction, Types of construction , Construction industry
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INTRODUCTION

The Indian Government has identified Infrastructure as one of the key drivers of economic development in the country. Investment in Infrastructure has increased from about 5% of GDP in the 10th Five Year Plan period to 9% in the 11th Five year Plan Period. India's planning commission has projected an investment of US$ 1 trillion for the infrastructure sector during the 12th Five Year Plan, with 40 per cent of the funds coming from the private sector. At the minimum, 45% investment in infrastructure is towards construction & 20% of the infrastructure spend will be for modernization of the construction industry. In order to attract such investment, the Indian government has eased foreign direct investment (FDI) norms for quite a few sectors of infrastructuredevelopment. Construction organization's efficiency and effectiveness largely depends on how managers scan the external project environment, identify the critical factors andadapt their organizations accordingly (Baloi 2002). Risk is an uncertain event or set of circumstances that could occur, have an effect on the achievement of the

project objectives. Risk factors is inherent in every construction project from small to larger project running millions to billions of naira and it is impossible for all risk to be avoided (Abba, 2008). A risk is the probability of incurring misfortune or loss while, a risk factor is a factor such as a habit or an environmental condition that pre disposes an individual to develop a particular diseases (Collins English Dictionary and Thesaurus, 2006).

The main causes of disputes in construction projects involve delay and failure to complete the work in the specified cost and time frame. The delivery time of a project is a key factor to the owner in terms of cost as much as it is for the contractor. Unexpected increase in cost and delays in construction projects are caused by owner, contractor, environments, etc. in which several types of risk factors may occur concurrently. The effect of cost overrun and schedule overrun not only influence the construction industry but the overall economy.

Meaning of Construction:

Construction is a very general term meaning the art and science to form material or immaterial objects, systems or organizations, and comes from Latin construction (from com- "together" and struere "to pile up") and Old French construction. Construction is used as a verb: the act of building, and a noun: how a building was built, the nature of its structure.

Construction Sector and the Indian Economy:

The Construction sector has been contributing around 8 per cent to the nation's GDP (at constant prices) in the last five years (2006–07 to 2010–11). As indicated by Table 1GDP from Construction at factor cost (at constant prices) increased to `3.85 lakh crore (7.9 per cent of the total GDP) in 2010–11 from `284798 crore (8 per cent of the total GDP) in 2006–07. The growth in construction sector in GDP has primarily been on account of increased spending on physical infrastructure in the last few years through programmes such as National Highway Development (NHDP) and PMGSY/Bharat Nirman.

Table:1 Construction Sector-Macro Aggregates

Macro- Variables	2006-07	2007-08	2008-09	2009-10	2010-11
GDP from Construction (lakh crore)	2.85	3.15	3.33	3.56	3.85
Share of GDP (%)	8.0	8	8	7.9	7.9
Growth rate for GDP in Construction (%)	10.3	10.7	5.4	7	8

Source: Hand Book of Statistics, RBI 2010-11

OBJECTIVES:

To study the peculiar characteristics of construction industry

To study the key risk factor involved in the construction industry

To study the reasons for failures of construction company:

To study the role of government for the development of construction industry

PECULIAR CHARACTERISTICS OF THE CONSTRUCTION INDUSTRY:

It is a capital-intensive industry involving current and future outlays of funds with the expectation of a stream of benefits extending far into the future.

The construction project takes a long duration to complete e.g. the Bhakra Dam took fifteen years for its completion (1950-1965) and also have a long gestation period.

The useful life of construction project of national importance is very long usually more than 60 years for most of the major constructions.

In the construction project, products and services are combined together. In construction, product is fixed and machine and men move, contrary to assembly line production in which product moves.

A large construction needs a large land area. Acquisition of such land leads to payment of compensation to the owners of the land, which has legal and political over tones. In some cases like construction of dam, it needs rehabilitation of nearby villages. Such problems usually do not occur with the other industries.

Cost benefit analysis of public infrastructure created by construction activity such as roads, bridges and dams cannot be done with traditional concept of profit maximisation alone. Special economic tools like Social Cost Benefit Analysis (SCBA) and principles of welfare economics are essential for the valuation of such assets.

Two construction projects are not identical in every respect. Thus, construction project can be considered as a job work of a large magnitude contrary to any other manufacturing unit producing products at mass scale by a single machine.

The human resource working in construction forms a temporary organisation for the project at the site and disperses in different directions as soon as the project is over.

Experience of generations plays a vital role as most of the construction material directly used after quarrying are the natural material and performance or relative merit of such material takes a long time for its pronouncement, the time may be in decades.

Death of workers during the execution phase of project is very common, so safety and precaution are primary concerns.

KEY RISK FACTORS INVOLVED IN THE CONSTRUCTION INDUSTRY:

The construction industry is often considered as a risky business due to its complexity and strategic nature. It incurs a numerous project stakeholders, internal and external factors which will lead to enormous risks. Unfortunately, the construction industry has a poor reputation in risk analysis when compared to other industries (Laryea, 2008). However, No construction project is risk free. Risk can be managed, minimized, shared, transferred, or accepted. It cannot be ignored (Latham 1994). Risk is a multi-facet concept according to (PMI, 2008) Project risk management is the processes concerned with identifying, analyzing, and responding to project risk. So the following risk involved in the construction industry.

Manpower Shortages:

Although the construction industry employs 33 million people, second only to the agricultural sector, the incremental workforce requirement is around four million people per year over the next seven years to sustain the current growth rate. The construction industry is set to face a challenge in terms of sourcing manpower. Adding to this the shortage of contractors.

Procedural and Legal Vulnerability:

Development projects entail clearances and permissions from various government departments. Delays are tedious and vary from state to state depending on local laws. Hence this adds to overall complexities of transaction, increasing the need for local expertise in each market.

Low Financial Commitments:

Most construction projects are executed on a cash contract basis and are funded and managed by the owner/sponsor. The number of construction projects with equity participation by contractors is limited to a few projects. Payment security concerns are high, and they depend on the credit profile of the client. Usually outstanding *Low project risk, but high payment receivable risk* - The project risk for a contractor is low, Usually outstanding payments and retention money payable to the contractor are delayed, as these payments are made after the entire construction activity and project period is completed. This may affect the smaller players in the industry.

Infrastructure Bottlenecks:

Infrastructure is a cause of concern in majority of cities across the country as recent infrastructure developments have been slow and has not kept in pace with the development. Inadequate power, absence of drinking water, electricity failure, traffic congestion and pollution are common features across the major cities in India. On the basis of current plans, electricity generating capacity will rise by 6% annually over the period 2007 to 2012, double the rate of the past five years and the second largest absolute increase in capacity in the world. However, this is still well below the likely growth rate of GDP. Power shortage could be an impediment to construction activities in the future.

High Level of Fragmentation*:*

The industry is highly fragmented, as the entry barriers are low due to less fixed capital requirements. It is estimated that in 2004, over 3 million construction entities (including housing contractors) existed, of which only around 28,000 were registered. However, there is more fragmentation in the housing segment than the industrial/ infrastructure segment, as the unorganised sector accounts for 75% of the same. Furthermore, the industrial/infrastructure sector requires far more technical expertise and it is difficult for smaller players in the unorganised sector to compete effectively.

Title Clearances for SEZs are Invariably Delayed:

Title clearance in India is a complicated process in the absence of a central database of properties. This also adds to the costs and delays in a project.

Delays in land acquisition:

Delays in land acquisition is a major source of project delays and escalating project costs. This is applicable to large infrastructure projects such as SEZs, power plants, and others.

Delays in Master Plan / Development Plan Review and Implementation:

Experience of implementing the Master Plans has not been encouraging because of weak data base, financial constraints, lack of resource mobilization, over ambitious plan proposals, lack of integration between spatial planning proposals with economic development plans and inadequate legislative support and enforcement.

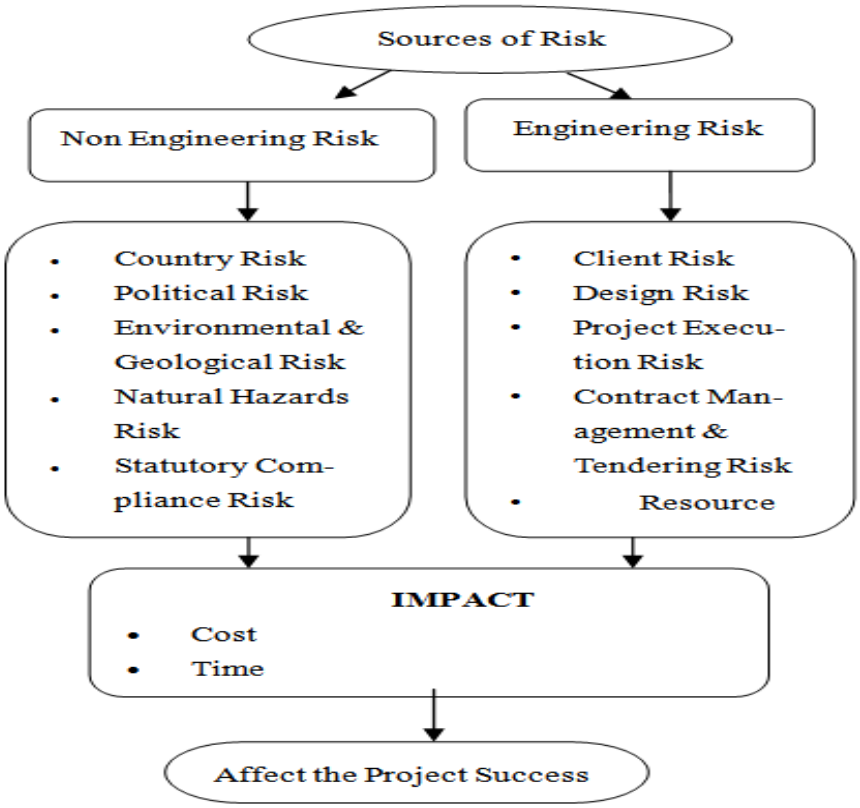
Frequent and expensive reconstruction:

The maintenance requirement of the high density corridor of NHs under construction and post implementation support is provided by NHAI. However, the non-NHDP NH sections, which are maintained by State PWDs, are poorly managed, primarily because the funds made available to them for

maintenance are well short of the requirement as per norms.

Knowledge Map

From the review of literature, the major risk sources and their impact are identified. The knowledge map representing the risk sources affecting the project success is shown in figure 1. This flow chart consists of various risk factors, in which Engineering risks are predictable and those non engineering risks are non predictable. The predictable factors should be forecasted during the earlier stage of the project whereas the non predictable factors involve uncertainties; this should also be estimated for the successful completion of the project because these risks will affect the cost, time, quality of the project.



REASONS FOR THE FAILURES OF CONSTRUCTION COMPANY:

Construction industry has been characterized as weak inefficient, nebulous, backward and slow to incorporate changing conditions. In a nutshell majority of construction companies are poor absorber of management knowledge. Every construction project is unique in itself and does not need very strict technical standardization. An operation in construction work involves many skills and talent, mostly of non-repetitive nature. Remote location of the project, poor means of transportation and varying productivity of labour are some factors, which are beyond the contractor's control. Thus construction business is volatile in nature with many ups and downs.

Dun & Bradstreet (1985-1994) have studied the failure of Construction Company for many years (10 years). The reasons for the failure of construction industry are Unbalanced experience, Lack of managerial experience, Lack of experience in particular line, Neglect, Fraud, Disaster. The first four items listed n above list account for over 90 percent of the failures. This fact exhibits that financial success of Construction

Company depends almost entirely upon the quality of its management. Sometimes prolonged work, poor profit margin, lack of proper accounting procedure can be cited as reason for the failure.

Recently Kale and Arditi (1998) have done a thorough investigation in this direction. They conclude that newness, adolescence and smallness are three major factors, which are responsible for failure of construction companies.

Arditi et.al.(2000) found budgetary and macroeconomic issues as main reason. Kivrak and Arslan(2008) have examined the critical factors causing the failure of construction companies through a survey conducted on forty medium and small size construction companies of Turkey. They have inferred lack of experience and country's economic condition as influential factor for the failure. Finally financial handicap is perhaps the root cause of failure, which is always associated with new companies. It may be concluded that in simple terms, if any one fails in any business, i.e. he could not understand the economics or intricacies or commerce of that business.

THE GOVERNMENT ROLE FOR THE DEVELOPMENT OF CONSTRUCTION INDUSRY:

The following Policy and Regulatory efforts are taken by the Indian government to boost the construction activity
in India.

Efforts to Increase Access to Funds:

The Indian Government has undertaken numerous efforts in order to ease the access to funding for the infrastructure and construction sector in India. FDI up to 100% is permitted through automatic route in many sectors which means that prior approval of government or reserve bank is not required for accessing foreign funds for construction activities. The central government has introduced India Infrastructure Finance Company Ltd. (IIFCL), an institution set up specifically for lending to infrastructure sector & refinancing. Further, various Infrastructure entities & financial institutions allowed to issue infrastructure bonds for long term.

Tax Considerations:

India is looking to simplify its tax structure in order to attract further foreign investment. It is proposed to bring new direct tax code existing income tax act 1961. Currently foreign construction agencies working in India are subject to various taxes including:

- Income Tax – all companies generating income in India are subject to Income Tax. For companies incorporated in India, currently the base income tax rate is 30% while the same for foreign companies it is 40%. Additionally, corporates are liable to pay surcharge and education cess on applicable income tax.
- Service Tax – A service tax is payable on all services provided except those in a negative list issued by government of India. Current Service Tax rate is 12.36%
- Value Added Tax – India has introduced an indirect tax, value added tax to replace the erst while sales tax. This amount of tax varies from state to state and product to product.
- Excise Tax – Tax applied on products sold within India.
- Custom Duty – Tax applied on products sold outside India.

Other Regulatory Efforts:

- Incentive to private sector for developing logistic parks & free trade warehousing zones
- Active dialogue with industry and financial institutions to address issues
- Viability Gap Funding (max. 40% of project cost) for PPP projects in Infrastructure
- Agreements for avoidance of double taxation with a large number of countries
- Model concession agreement formulated for various sectors with balanced risk-sharing
- Corporate Income Tax holiday for 10 years for Infrastructure Projects
- Recently government has directed Coal India to make available a minimum of 80% of coal requirement to the power sector.

CONCLUSION

In India, construction industry is fragmented and a sizeable construction work is performed by the unorganised sector. The above peculiar characteristic creates favourable conditions for the establishment of a new company. If Construction Company is weighed on the basis of men; material and money following facts come up. As most of the construction is done either on site or precast members, are fabricated and assembled on the site and most of the construction equipment are available on rental basis, thus a little capital is invested in fixed assets and machinery. Construction companies require relatively low working capital as after award of contract, company realises mobilisation advance from owner before starting the work. Companies, usually employ labour contractor for the supply of labour force. So very few employees are on the permanent pay roll of the company. The construction companies need to include risk as an integral part of their project management. Decision making such as risk assessment in construction projects is very important in the construction management. The identification and assessment of project risk are the critical procedures for projecting success. Construction companies that manage risk effectively and efficiently enjoy financial savings, and greater productivity, improved success rates of new projects and better decision making.

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