

# Identifying Generic Issues and their Effects in Construction Project Management

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## ABSTRACT

*Construction industry is dynamic in nature, with capability to boost the economy, but it has numerous issues in itself, thus making project management a challenging task. The present study is to identify various issues and its effects on project management holistically. Online survey was conducted to mark responses on Likert Scale against 32 issues and 14 effects and R.I.I. method was adopted to rank the same. The top generic issues identified were Completing the project in the given time, Delay in payments from the client side, Lack of productive man power, Collecting outstanding payments and Efficient use of documentation system. These issues surely mark their effect on project management the top effects were Timely project delivery, Dissatisfaction by project owners / clients, Effective Machinery management, Shortage of confidence among the stakeholders and Loss of materials. Thus the study reveals that the generic issues are related to time, man and money and their effects are seen on time, man, machine and material.*

**Keyword:** construction, industry, project, management, issues

## 1 INTRODUCTION

India is developing nation working on various areas of development. Construction is major contributor to boost the nation's economy. Irrespective of importance of the construction industry it's full of risk; the project stakeholders face numerous problems, challenges and have issues. This issues need to be studied and handled as to achieve the standards. The fundamental parameters of construction project management are time, cost, quality and scope which are surely impacted by the issues. Present study is to quantify the generic issues that are prevalent in construction industry and its effects on overall project management.

### 1.2 Details of respondents

Total 68 responses were considered for study, respondents surveyed belong to various sectors of construction like Buildings, Roads / Bridges, Railways, Irrigation, Research. On the grounds of academic qualification 55% respondents are post graduates, 30.88% graduates and 10.29 % have their Doctoral Degrees the details are as follows.

Table -1 Respondent's details

Highest Academic Qualification		
Respondents qualification	Number	Percent
Diploma	3	4.41
Graduation	21	30.88
Post-Graduation or +	37	54.41
Ph. D.	7	10.29
Total	68	100
Type of Organization		
Sectors wise respondents involvement	Number	Percent
Government	14	20.58
Private	54	79.42
Total	68	100
Major type of work involved		
Industry wise respondents involvement	Number	Percent

Buildings	33	48.52
Roads / Bridges	11	16.17
Railways	4	5.88
Irrigation	8	11.76
Others	12	17.64
Total	68	100

Study made use of online survey; questionnaire was developed from prior similar literature available. Ranking of issues and their effects is done by R.I.I. i.e. Relative Importance Index method.

$$R.I.I. = \frac{\sum W}{A \cdot N} = \frac{1 \cdot n_1 + 2 \cdot n_2 + 3 \cdot n_3 + 4 \cdot n_4 + 5 \cdot n_5}{5(n_1 + n_2 + n_3 + n_4 + n_5)}$$

n1, n2, n3, n4, n5 is respective number of respondents who ranked respectively.

Questionnaire consisted of 4 parts, part 1 general information about respondents shown in table; part 2 had 32 numbers of issues to be ranked on Likert scale with range 1 to 5, Part 3 had 14 effects to be ranked in the range 1 to 5 and Part 4 invited respondents view about the research topic.

Table -2 Details of Likert Scale

For Issues in Part 2	For Effects in Part 3
1 = is not an issue	1 – Never effects
2 = is slightly important issue,	2 – Rarely effects
3 = is fairly important issue,	3 – Sometime effects
4 = is an important issue,	4 – Often effects
5 = is very important issue.	5 – Always effects

## 2. STUDY FINDINGS

The study was aimed to identify and rank both generic issues and their effects in construction project management the details are as follows.

### 2.1 Issues in Construction Project Management

Table -3 Details of R.I.I. of Generic Issues

Sr.No.	Generic Issue	Relative Importance					Total	ΣW	R.I.I.	Rank
		1	2	3	4	5				
1.	Lack of productive manpower	0	5	13	27	23	68	272	0.8	3
2.	Generation gap resulting conflicts in point of view among the stakeholders	4	12	23	18	11	68	224	0.658824	27
3.	Lack of communication in stakeholders	4	5	11	29	19	68	258	0.758824	8
4.	Issues with subcontractors	1	8	23	27	9	68	239	0.702941	18
5.	Job switching done by manpower	3	12	24	18	11	68	226	0.664706	24
6.	The blame game (in failure if any)	5	6	19	18	20	68	246	0.723529	13
7.	Inadaptability towards any change/ technological upgrades	1	6	16	23	22	68	263	0.773529	7
8.	Inflation (general increase in prices)	4	11	15	24	14	68	237	0.697059	19
9.	Insufficient capital for ongoing projects	3	5	10	28	22	68	265	0.779412	6
10.	Delay in payments from the client side	2	3	13	19	31	68	278	0.817647	2

11.	Collecting outstanding payments	0	4	15	30	19	68	268	0.788235	4
12.	Unfriendly terms and condition from fund providers	6	8	16	18	20	68	242	0.711765	15
13.	High prices of machinery / equipments	3	14	25	21	5	68	215	0.632353	31
14.	Managing waste at site	3	12	24	20	9	68	224	0.658824	27
15.	Fluctuations in material cost	1	13	22	27	5	68	226	0.664706	24
16.	Unavailability of (expected) quality material	3	8	20	24	13	68	240	0.705882	16
17.	Material delivery at site	7	12	17	20	12	68	222	0.652941	30
18.	Completing the project in the given time	2	5	8	21	32	68	280	0.823529	1
19.	Complex nature of projects	1	7	28	22	10	68	237	0.697059	19
20.	High competition in the market	2	9	16	26	15	68	247	0.726471	12
21.	Efficient use of documentation system	2	5	14	23	24	68	266	0.782353	5
22.	Ambiguity in scope of work to be done	4	6	21	27	10	68	237	0.697059	19
23.	Change in scope / design of work	6	8	17	26	11	68	232	0.682353	22
24.	Unanticipated ground / site conditions	6	10	18	27	7	68	223	0.655882	29
25.	Legal issues before and during execution of project	3	7	19	23	16	68	246	0.723529	13
26.	Change in government (policies at state or at Centre)	5	8	11	24	20	68	250	0.735294	11
27.	Meeting the changes incorporated by Governing bodies	4	9	22	22	11	68	231	0.679412	23
28.	Interference of local people	2	12	17	22	15	68	240	0.705882	16
29.	Unawareness about environment friendly construction	1	5	20	29	13	68	252	0.741176	10
30.	Achieving environmental sustainability	1	7	17	24	19	68	257	0.755882	9
31.	Weather condition at respective site	5	10	20	24	9	68	226	0.664706	24
32.	Natural hazards	11	11	22	15	9	68	204	0.6	32

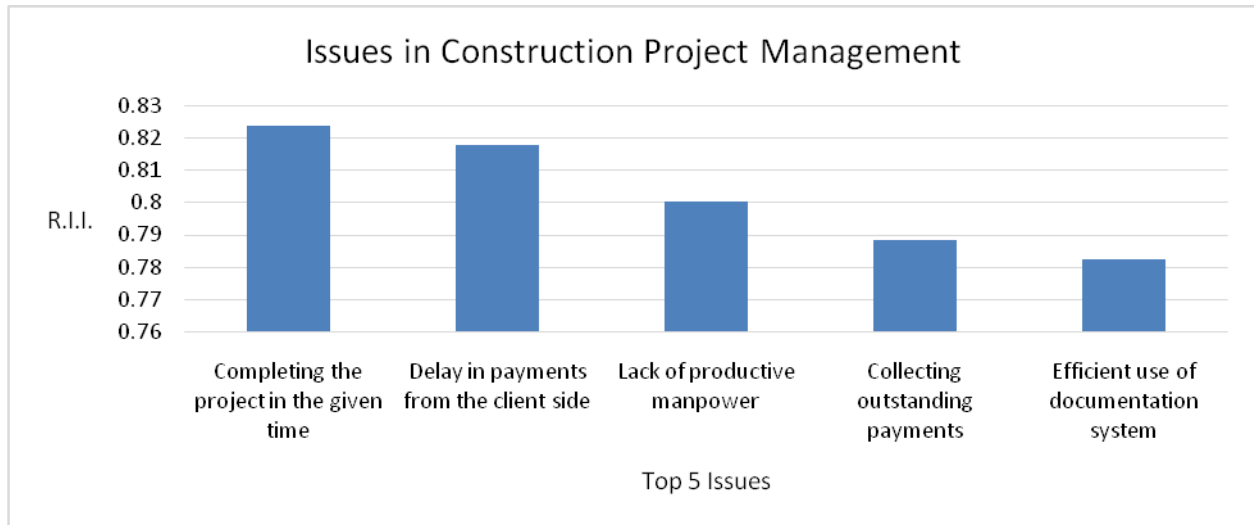


Fig – 1 Top 5 Issues in Construction Project Management

The generic issues in construction project management are shown in figure, with R.I.I. 0.823529 Completing the project in the given time topped the list, issue of Delay in payments from the client side marked the R.I.I. of 0.817647, followed by 0.8 for Lack of productive manpower, 0.788235 was the R.I.I. of issue called Collecting outstanding payments and issue of Efficient use of documentation system with R.I.I. 0.782353 stood fifth in the respective list. If observed the top issues for construction project management is related to time, money, man (human resource) and use of available resource i.e. documentation system.

## 2.2 Effects of Issues in Construction Project Management

Table -4 Details of R.I.I. of Effects of Issues

Sr.No.	Effects	Relative Importance					Total	ΣW	R.I.I.	Rank
		1	2	3	4	5				
1.	Abandonment of ongoing project	6	10	29	17	6	68	211	0.620588	13
2.	Timely project delivery	0	9	11	25	23	68	266	0.782353	1
3.	Rework	2	6	26	21	13	68	241	0.708824	7
4.	Discourages investment from money lenders	2	9	22	25	10	68	236	0.694118	9
5.	Designers profit	4	12	37	9	6	68	205	0.602941	14
6.	Dissatisfaction by project owners / clients	4	6	14	24	20	68	254	0.747059	2
7.	Shortage of confidence among the stakeholders	1	8	20	24	15	68	248	0.729412	4
8.	Loss of Reputation of the stakeholders	3	7	23	22	13	68	239	0.702941	8
9.	Frustration of / on the stakeholders	1	11	24	25	7	68	230	0.676471	11
10.	Lack of concentration on other projects if any	1	8	24	22	13	68	242	0.711765	6
11.	Loss of materials	2	8	16	31	11	68	245	0.720588	5
12.	Effective Machinery management	3	7	14	29	15	68	250	0.735294	3
13.	Environmental degradation	3	14	23	19	9	68	221	0.65	12
14.	Endangered to legal prosecution	4	7	21	30	6	68	231	0.679412	10

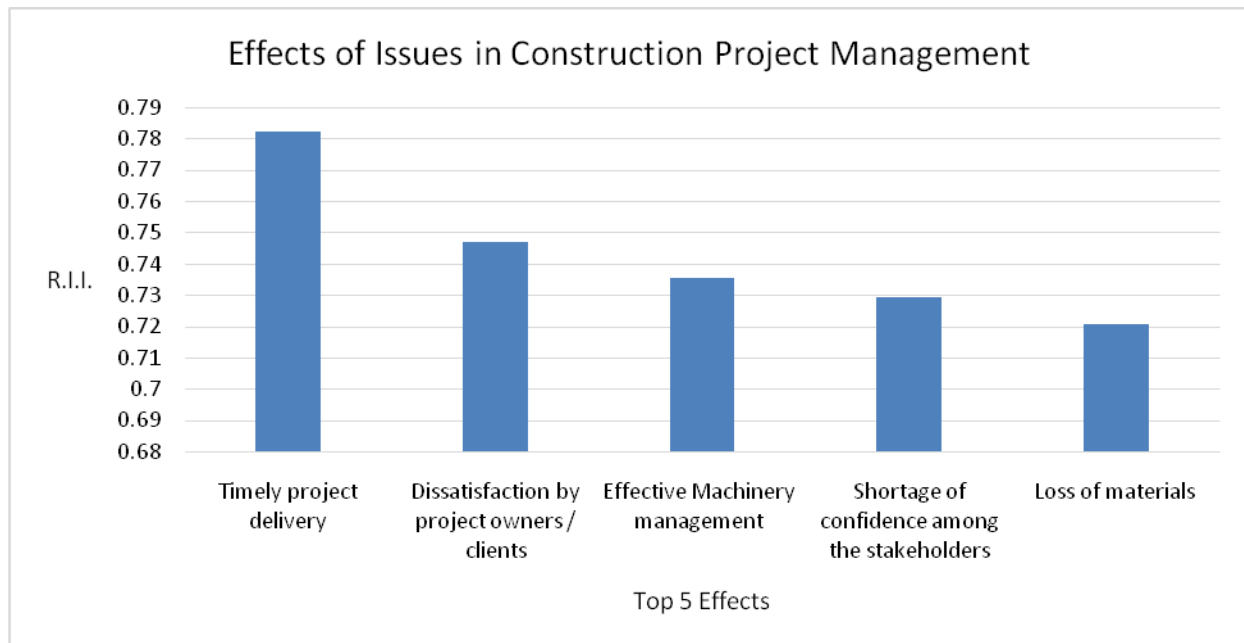


Fig -2: Top 5 Effects of Issues in Construction Project Management

The effects of generic issues are shown in table, Timely project delivery topped the list with R.I.I. 0.782353, followed by Dissatisfaction by project owners / clients and R.I.I. 0.747059, Effective Machinery management, Shortage of confidence among the stakeholders and Loss of materials are the effects with R.I.I. of 0.735294, 0.729412, and 0.720588 respectively. The top effects show that issues hamper projects time, 3 M's of Civil industry i.e. man, machine and materials especially human i.e. owner, client and project stakeholders.

### 3. CONCLUSIONS

Present study identified the generic issues prevalent in the construction industry with respect to project management. The top issues identified in the study were Completing the project in the given time, Delay in payments from the client side, Lack of productive manpower, Collecting outstanding payments and issue of Efficient use of documentation system which related to time, 2 M's of Civil industry i.e. man and money and documentation system. The effects of these issues found are Timely project delivery topped, followed by Dissatisfaction by project owners / clients, Effective Machinery management, Shortage of confidence among the stakeholders and Loss of materials. The top effects show that issues hamper projects time, 3 M's of Civil industry i.e. man, machine and materials especially human i.e. owner, client and project stakeholders which is an alarming situation. Both issues and their effects are in relation to man, thus demanding human resource to be productive and effective.

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## BIOGRAPHIES



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