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Causes and Effects of Delays in Construction Projects: Review

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ABSTRACT

Development Projects are becoming unpredictable due to cost overwhelm. This overwhelm now and again results either in postponement or deficiency or another such troubles. In Nepali development industry conventional methodology is dominantly stylish in practically everything of the tasks. Distinguishing proof of basic achievement elements are going to be useful to plan compelling techniques for limiting the expense of Construction Projects. the overall target of the this exploration paper is o investigate all the many elements contributing the value invade and distinguishing the essential components of circumstances and logical results of deferral in development venture. Advisors and Contractors are talked with by and by to urge the commonsense issues through an summary poll. the acceptable responses are gathered and reasonable approaches for taking care of the problems are figured which are appropriate for our Nepali Scenario. The outcomes demonstrated that venture alteration must be required with for decreasing the convenient finish. Specifically, elevated level execution of the venture directors, standard administration rehearses, wide appropriation of present day the executives devices, successful time and quality administration, and procedures and group association within the undertaking are seen as critical things for venture the board. There are six factors that influence delays in development venture which incorporates: time overwhelms cost invade, contest, intervention, complete relinquishment; and case. The aftereffects of examination demonstrated time invade and price overwhelm were the 2 most conventional impacts of postponements in development venture.

Keywords: Cause; Consultant; Delay; Effect; Project.

1.0 Introduction

A development venture is generally conceded as fruitful when it complete on schedule, with budget, agreeing the determinations, and partner fulfillment. Notwithstanding, the greater a part of the activities didn't complete because the normal schedule. Rather, they finished previously or after the timetable due to vulnerabilities of occasions and its uniqueness [1]. Development ventures experienced 70% of your time invades and 76% of temporary workers and 56% of advisors have shown that they need been confronting normal time overwhelm of 10 to 30% from the primary span that causes half cost overwhelm [2]. Elsewhere, half the event ventures within the United Arab Emirates (UAE) experienced development delay [3]. Consequently, defer considered together of

the foremost widely known issues causing an enormous number negative impact on undertakings, and its taking an interest parties [5].

Ethiopia one among the quickest developing, creating nation; utilizes development industry because the principle contribution for development, business, and foundation extension. However, not added to the advancement of the state as wanted due to it faces different issues, constraints, and drawbacks . Among those, effect of deferral in development venture may be a typical, and a transcendent. Different scientists had been examining the circumstances and end results of postponements in development extends everywhere throughout the planet and in local in various habits for a substantial length of your time . the difficulty concentrated in various nations with various researchers; due to the

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reason that, it varies starting with one nation then onto the next; in time variety or maybe one anticipate to a different . What's more, to locate the various factors and gatherings of components that causing delay. some of these nations that examined the difficulty of the circumstances and end results of postponement incorporate; China[12] Thailand[11]; India[8]; Nigeria[6]; Ghana[7]; Egypt[4]; UAE[3] Saudi Arabia[2]; and Iran[5].

Among those explores, a number of them focus on circumstances and end results, and therefore the other just on cause or impact. The review of Ghana lodging ventures led to assess 37 causes with impacts of postponement. At that time discovered six most elementary variables of deferral as postponement in installment to contractual worker/provider, expansion/cost vacillation, cost increments in materials, subsidizing from the support/customer, variety requests, and poor monetary/capital market [7]. Mahamid [9] made an examination of complete of 52 reasons for postponement and locate the foremost contribute factors as political circumstance, division of the West Bank and constrained development between territories, grant undertaking to least offer value, progress installment delay by the proprietor, and deficiencies of drugs.

From the all out 43 inspected reasons for postpone classified under seven fundamental gatherings. The transcendent were researched lack of development materials in showcase, vacillations in cost/money, late financing and installments of finished work by the proprietor, impacts of subsurface conditions, deficiency of works, deficient experience of advisor, challenges in financing venture by the temp , low profitability level of works, unfit workforce, and variety orders/changes of degree by the proprietor during development [4]. The examination of reasons for delay in gas pipeline development extends that discovered ten most vital reasons for the task delay among 43 elements as imported materials, ridiculous venture length, customer related materials, land confiscation, change orders, temp choice strategies, installments to contractual workers, acquiring licenses, late conveyance of requested materials by the providers, and temporary workers' money flows[5].

The assessment of the impact of 26 factors on schedule, cost, and quality in open development extends and distinguished five fundamental driver of postponement as disrupted or absence of the venture

financing, delay or long procedure times caused by different specialists, agitated or absence of task arranging, mistakes or oversights in development work, and absence of recognizable proof of requirements [10]. From this short survey of the writing, the difficulty concentrated in various nations with various researchers; caused all with various circumstances and end results of postponement. Most investigates focus on the general reasons for delay, while; this examination centers round the targets of; (1) the explanations for delay in development process, which contains pre-development, development, and post-development. (2) There has not been any examination that researched the tie between the principle investors duty, asset, agreement and outer in identify with the event procedure at various kind of contracting associations (general temp, building contractual worker, street contract based worker, water work development contractual worker, heap establishment work contract based worker, electro mechanical contract based worker, counseling and engineering).

2.0 Background

The event business has incredible effect on economy everything being equal (Assaf, Al-Khalil, and Al-Hazmi, 1995). it's one among the areas that provides essential fixing to the advancement of countries' economy (Alnuaimi and Mohsin, 2013). During execution of development extends, the works continue at a more slow pace than arranged, and delays as often as possible show up. Their appearance prompts extra cost age, clashes among venture participants.(Rahsid, Haq, and Aslam, 2013) the event business in numerous nations represents 6-9 percent of the Gross Domestic Product (GDP) (Challal and Tkiouat, 2012); and as indicated by Bhimaraya, (2001), it involves up to 10 percent of the GDP of most nations. the event business assumes fundamental job within the economy development and significantly affects the proficiency and efficiency of other industry parts. One can't consider far reaching interest in assembling, horticulture, or administration parts except if the event aftereffects of framework offices are found out . during a portion of the creating nations, the event pace of development movement overwhelms that of populace and of

GDP(Maurice Paul Okeyo, Charles Mallans Rambo, and Paul Amollo Odundo, 2015).

Development ventures offer ascent to disappointment to all or any the gatherings engaged with the event and therefore the fundamental job of the task director is to make sure that the undertakings are finished inside the designated budget , time and price accomplishing its quality particulars. Task execution in Nepal has stayed ineffectual. Most improvement ventures have neglected to accomplish the perfect targets. Time and price invades are normal. the traditional postponement in usage of tasks is around three years. it's eight years for vitality ventures, seven years for water system and transport projects(Agrawal, Subramanian, and Kapoor, 2010). one among the foremost significant undertakings in Nepalese's situation is that the 'Melamchi Water flexibly venture'. The task was begun in 2001 A.D. with expected fruition in 2006 A.D. In light of moderate advancement, the maturity was stretched to 2007 and as lately , the task has set another objective at 2013 A.D and now the finish is again deferred to September 2016. Furthermore, nobody realizes what proportion are going to be added to the primary expense due to the expansions. the planet Bank (WB) pulled back its venture from the task in 2005 A.D on account of the deferrals. This task isn't in any case finished. due to supposed botch and ineptitude of these liable for executing the undertaking, the cutoff time for its fruition has just been expanded twice (Melamchi, 2012). Be that because it may, the deferrals within the undertaking keep it up happening. The principle motivation behind this investigation is to differentiate the defer factors and their effect (impact) on venture fruition. Prior examinations either considered the causes or the impacts of undertaking delays, independently.

This examination adopts an important strategy and endeavors to interrupt down the effect of causes on impacts. a couple of circumstances and end results of deferrals in development ventures are often nation specific.(Alaryan, Elshahat, and Dawood, 2014).

This examination has distinguished significant reasons for delay and classified them as customer related, temp related, advisor related, material-related, work related, contract-related,

contract relationship-related, and outer variables. The examination has likewise distinguished significant impacts of deferral as: time invade, cost overwhelm, debate, discretion, prosecution, and complete surrender. Recognizable proof of circumstances and end results alone doesn't help the undertaking chiefs to form fitting medicinal or preventive strides.

The venture directors got to comprehend, as an example , what causes or considers result time invade or cost overwhelm. during this manner, the connection among circumstances and end results of postpones should be built up. Time overwhelms on framework advancement ventures during execution keep it up presenting incredible difficulties to making countries.(Divya.R and S.Ramya, 2015; Haseeb, Xinhai-Lu, Bibi, Maloof-ud-Dyian, and Rabbani, 2011; Honrao and Desai, 2015) Research has discovered that, there are numerous components that block on effective finish of undertakings on schedule, budget , and quality. (Pandey et al., 2015). This examination tried to explore on the variables that fundamentally added to time and price invades on development ventures. This assesses relative positioning; and to gauge their impacts. (Pourrostan, 2010) The investigation trusted a poll overview among people drawn from contractual workers, specialists and customer, engaged with the usage of the tasks within the examination.

3.0 Exploration Objectives

1. To recognize the many reasons for delays in development venture.
2. To recognize the basis wellsprings of development delay in development ventures in Nepal.
3. To distinguish the impacts of deferrals in development venture.

3.1 Aspects on mix design

The examination has been organized because the contextual analysis of development ventures during usage stage parts of Kathmandu valley. the entire procedure spins round the optional information sources gathered from the association's intermittent distributions, yearly audits, client input outlines and market

investigation of the organization in rivalry to the others with same business process structure. The investigation depends on expressive exploration configuration followed by systematic thanks to affect accomplish the target of the examination. within the investigation, the universe of the knowledge (the populace) was the pool of knowledge gathered through the accessible undertaking report sources and was held under thorough strategies under examination. the knowledge was grouped and extricated for reference rather than arbitrary choice of data without bunching. Certain electronic data and old information hotspots for reference were absolutely taken on judgment with suspicion of upper tendency with the examination, yet maintained to be for simply referential purposes to dodge deviation of the mean (in hypothetical terms).

The assortment of data for the proposed examination was gathered from different sources in classified and non-organized (optional) structures. The wellsprings of knowledge assembled for the investigation were different and subsequently the examination trusted the measure of data gathered and arranged from information sources because the authoritative intermittent distributions, existing framework configuration reports, showcase assessment of the association's items, client criticism graphs, progress diagrams, GANTT outlines of the continual undertakings, PERT module delineations. The principal creatures were interviews with the delegates of the development Company and experts working within the development business to collect the info . A poll overview was led to urge criticism from the event business. The gathered information are often characterized, contingent upon the sources and therefore the openness even as unwavering quality of the sources, into two fundamental groupings: essential and auxiliary. the entire data assemble are sorted as essential data. Next were the writing survey to assemble data about exploration subject and difficulties looked by development industry. it's gotten from the online , articles in diaries and papers and furthermore another distributed examination book. From writing survey, an faraway from of this exploration was built up research work. The information assortment procedures followed

during the procedure was best reasonable with the conditions predominant and exposed to the restrictions of the rules . They were: Personal meeting of individuals of the association under examination, conversation with concerned specialists, on location perceptions (non-member), telephonic discussions, audit of literary works (term-end investigation reports, end of the day plan explanations), Appraisals (achievement surveys, client evaluations and criticisms, venture surveys) and helping references (electronic data)

3.2 Materials used

The created review survey was dispersed a fifty sets to the focused on respondent. Around twenty tow sets were dispersed to the temporary workers chose arbitrarily from the rundown of "FCAN", Federation of Contractors' Association of Nepal and twenty eight sets were appropriated to the specialists chose haphazardly from the rundown of "SCAEF", the Society of Consulting Architect and Engineer Federation, Nepal. The strategy utilized in investigating of data was planned for build up the overall significance of the various components that increase reasons for delays, impacts of deferrals, and methods for limiting development delays. There are three stages utilized in breaking down the information: computing the relative significance record; positioning of variables in every classification hooked in to relative significance list, and to make a decision level of connection on positioning the weather among the 2 gatherings. The target of directing the investigation for this segment is to line up the weather under the gatherings of causes recognized from the writing audit and therefore the positioning as per their huge impact towards development venture delays. A positioning strategy was utilized to accomplish this target and therefore the noteworthy of utilizing these strategies is it can uncover the foremost compelling elements inside every classification of causes.

4.0 Results and Discussion

A positioning strategy was utilized to accomplish this target and therefore the noteworthy of utilizing these strategies is it can uncover the foremost compelling variables inside

every classification of causes. An all out fifty seven central point that added to reasons for delays were distinguished. The fifty seven variables were gathered into eight significant gatherings: material related; work related; hardware related; fund related; temp related; customer related; expert related; and outer elements. These variables were positioned in each gathering hooked in to relative significance file from the attitude of contractual worker and expert.

4.1 Components of material related delays

There are seven factors that added to the reasons for defers identified with material deferrals were distinguished and positioned from the perspective of contractual workers and advisors. The Spearman's Rank relationship coefficient, rho (rs) is 0.679 and has a huge worth (Z) of 0.094.

Table 1: The Result of Factors of Material Delays

Factors	Consultant		Contractor		Spearman's Rank Coeff. Rho (rs)
	Index	Rank	Index	Rank	
Shortage of construction materials	4.2	1	4.24	1	rs = 0.679 Z = 0.094 Thus H0 is accepted
Late delivery of materials	4.09	2	3.96	2	
Imported of construction materials	3.89	3	3.82	3	
Poor procurement of construction materials	3.85	4	3.6	4	
Poor quality of construction materials	3.7	5	3.73	5	
Escalation of material prices	3.57	6	3.71	6	
Unreliable	3.07	7	3.76	7	

4.2 Factors of labor related delays

There are seven factors of labor related delays were ranked supported relative importance index from the attitude of contractor and consultants. The results of study show that factor of labor productivity is that the top most vital factor that contributed to causes of delays among seven factors of labor related delay. The ranking between two groups of respondent of this category

has the Spearman's Rank correlation coefficient; rho (rs) is 0.893 and a big value (Z) of 0.007. Thus the null hypothesis (Ho) is rejected and alternative hypothesis, H1 is accepted.

Table 2: The Result of Factors of Labor Related delays

Factors	Consultant		Contractor		Spearman's Rank coeff. Rho (rs)
	Index	Rank	Index	Rank	
Slow mobilization of labor	3.86	4	3.76	5	rs = 0.893 Z = 0.007 Thus rejected H0
Shortage of skill labor	4.09	2	3.98	2	
Labor productivity	4.11	1	4.00	1	
Labor supply	4.00	3	3.89	3	
Absenteeism	3.09	7	3.71	6	
Strike	3.30	6	3.31	7	
Low motivation/ Morale	3.35	5	3.76	4	

4.3 Factors of kit related delays

Table 3: The Result of Factors of Equipment Related Delays

Factors	Consultant		Contractor		Spearman's Rank coeff. Rho (rs)
	Index	Rank	Index	Rank	
Insufficient number of equipment's	4.46	1	4.4	1	rs = 0.764 Z = 0.046 Thus H0 is accepted
Frequent equipment breakdown	4.33	2	4.18	2	
Shortage of equipment part	4.13	3	3.93	3	
Improper equipment	3.87	4	3.73	4	
Slow mobilization of equipment	3.85	5	3.76	5	
Equipment allocation problem	3.59	6	3.73	6	
Inadequate modern Equipment	3.3	7	3.76	7	

Factors of causes of delays were ranked supported relative importance index from the point of view of contractor and consultant. pertaining to this category has the Spearman's

Rank coefficient of correlation , rho (rs) is 0.764 and a big value (Z) is 0.046. The null hypothesis, Ho is rejected and alternative hypothesis H1 is accepted. This shows that there's a big degree of agreement between the ranking of the point of view of contractor and consultant.

4.4 Factors of finance related delays

There are seven factors that contributed to the causes of delays associated with finance were ranked supported relative importance index. The results of relative importance index and therefore the ranking of things of finance related delays between respondent of contractor and consultant. during this category, the null hypothesis, H0 is rejected and alternative hypothesis, H1 is accepted. The Spearman’s Rank coefficient of correlation, rho (rs) is 0.901 and features a significant value (Z) of 0.006. This value is far above 0.05 (5%) which rejected the choice hypothesis, H1 at a confidence level of 95%. Therefore, concluded that there's significant degree of agreement within the ranking among the groups of respondents.

Table 4: The Result of Factors of Finance Related Delays

Factors	Consultant		Contractor		Spearman's Rank coeff. Rho (rs)
	Index	Rank	Index	Rank	
Inadequate fund allocation	4.53	1	3.71	1	rs = 0.901 Z = 0.006 Thus rejected H0
High interest rate	4.27	2	4.04	2	
Contractor's financial difficulties	3.95	3	3.87	3	
Unreasonable constraints to clients	3.8	4	3.79	4	
Delay payment to suppliers/subcontractors	3.67	5	3.76	5	
Monthly payment difficulties	3.09	6	3.71	6	
Client's financial difficulties	3.02	7	4.29	7	

4.5 Factors of contractor related delays

The factors to causes of delays were ranked based on relative importance index between group of respondent of contractor and consultant. This

category has the spearman’s rank correlation coefficient, rho (rs) is 0.983 and a significant value (Z) is 0.001. The null hypothesis, Ho is rejected and alternative hypothesis H1 is accepted. This shows that there is a significant degree of agreement between the ranking of contractor and consultant.

Table 5: The Result of Factors of Contractor Related Delays

Factors	Consultant		Contractor		Spearman's Rank coeff. Rho (rs)
	Index	Rank	Index	Rank	
Inadequate contractor experience	4.54	1	4.36	1	rs = 0.983 Z = 0.001 Thus H0 is rejected
Inappropriate construction methods	4.39	2	4.22	2	
Inaccurate time estimating	4.35	3	4.27	3	
Inaccurate cost estimating	4.29	4	4.23	4	
Poor site management and supervision	4.26	5	4.23	5	
Improper project planning and scheduling	4.23	6	4.16	6	
Incompetent project team	4.22	7	4.07	7	
Unreliable subcontractor	4.17	8	4.11	8	
Obsolete technology	3.83	9	3.79	9	

4.6 Factors of client related delays

Table 6: The Result of Factors of Client Related Delays

Factors	Consultant		Contractor		Spearman's Rank coeff. Rho (rs)
	Index	Rank	Index	Rank	
Slow decision making by client	4.39	1	4.32	1	rs = 0.929 Z = 0.003 Thus H0 is rejected
Lack of experience	4.02	2	3.8	2	
Change orders	3.96	3	3.87	3	
Client interference	3.92	4	3.78	4	
Lack of capable representative	3.85	5	3.76	5	
Lack of communication and coordination	3.48	6	3.73	6	
Improper project feasibility study	3.08	7	3.76	7	

Both group of respondent agreed on the ranking of the factors based on relative importance index. The Spearman’s Rank correlation, rho (rs) is

0.929, and significant value (Z) is 0.003, which indicates a significant agreement in the ranking hence the null hypothesis, H_0 is rejected and alternative hypothesis, H_1 is accepted.

4.7 Factors of consultant related delays

The results of survey analysis of factors of consultant related delays. Factors of causes of delays were ranked based on relative importance index between respondents of contractor and consultant. This category has the Spearman’s Rank correlation coefficient, rho (rs) is 0.928 and a significant value (Z) is 0.008. The null hypothesis, H_0 is rejected and alternative hypothesis H_1 is accepted. This shows that there is a significant degree of agreement between the ranking of contractor and consultant.

Table 7: The Result of Factors of Consultant Related Delays

Factors	Consultant		Contractor		Spearman's Rank coeff. Rho (rs)
	Index	Rank	Index	Rank	
Inadequate consultant experience	3.98	1	4.02	1	rs = 0.928 Z =0.008 Thus rejected H_0
Poor design and delay in design	3.93	2	3.84	2	
Inadequate project management assistance	3.76	3	3.76	3	
Slow response and poor inspection	3.52	4	3.76	4	
Incomplete drawing/detail design	3.46	5	3.71	5	
Inaccurate site investigation	3.43	6	3.73	6	

4.8 Factors of external related delays

There are seven factors of external related delays that contributed to the causes of delays were ranked based on relative importance index between contractor and consultant. The Spearman’s Rank correlation coefficient, rho (rs) is 0.070 and significant value (Z) is 0.882 which much greater than 0.005. The null hypothesis, H_0 is accepted and alternative hypothesis, H_1 is rejected. This shows that there is no significant degree of agreement in the ranking between both contractor and consultant perspective.

Table 8: The Result of Factors of External Related Delays

Factors	Consultant		Contractor		Spearman's Rank coeff. Rho (rs)
	Index	Rank	Index	Rank	
Unforeseen ground condition	4.07	1	3.91	1	rs = 0.070 Z =0.882 Thus H_0 is accepted
Unexpected geological condition	3.83	2	3.73	2	
Inflation/prices fluctuation	3.83	3	3.71	3	
Sloe site clearance	3.8	4	3.73	4	
Problem with neighbors	3.76	5	3.73	5	
Weather condition	3.57	6	3.76	6	
Conflict, War and public enemy	3.17	7	3.73	7	

4.9 Identification of the major causes of delays

Table 9: Ranking of Major Delays Groups

No.	Groups	Consultant	Contractor	Overall	
		Mean	Rank	Mean	Rank
1	Contractor	4.12	1	4.05	1
2	Equipment	3.93	2	3.92	2
3	Client	3.92	3	3.85	3
4	External	3.72	5	3.84	4
5	Material	3.76	4	3.83	5
6	Finance	3.7	6	3.8	6
7	Consultant	3.68	7	3.76	7
8	Labor	3.68	8	3.76	8

During a construction project, delays may result from many circumstances. In this research, based on data analyzed earlier, a total of fifty seven factors to causes of delays were grouped into eight groups of causes of delays in construction project. In order to identify the major delays groups or the major causes of delays, the group that causes delays was ranked based on mean value (the average indexes) between two group of respondent contractors and consultants. The following is a brief discussion of the groups to

causes of delays according to the ranking of major delays groups.

4.10 Common effects of delays

In order to identify the effect of delays in construction project, there are six factors that effects delays were identified and ranked based on the mean value. Results shows that time overruns and cost overrun were the two most common effects of delays in construction project from the view of point of contractor and consultant.

The major delays groups were identified and ranked, which group of contractor related delays is that the top main groups that contribute to the causes of delays. From a complete of fifty seven factors to causes of delays, twenty top most vital factors are identified. the highest five most vital factors that contributed to the causes of delays are factors of insufficient numbers of kit, inaccurate time estimate, monthly payment difficulties, change orders, and inaccurate cost estimate. the consequences of delays are identified which era overrun and price overrun were the foremost common effects of delays in construction projects. to attenuate delays in construction project are identified the highest fifteen effective methods of minimizing construction delays from a complete of thirty five methods.

5.0 Conclusions

There are three objectives of this study which are achieved. the primary objective was to spot the main causes of delays, the consequences of delays, and therefore the methods of minimizing delays in construction projects. Therefore, concluded that there's a big degree of agreement between the 2 groups with reference to their ranking. This shows that the labor productivity has significant effect on the development delay. the primary objective of the study has been successfully identified. a complete of fifty seven factors that causes delays were identified. a number of these factors were the highest ten most vital factors that contributed to the causes of delays includes: insufficient numbers of equipment; inaccurate time estimate; monthly payment difficulties; changes orders; inaccurate cost estimate; poor site management and supervision; inadequate modern equipment;

shortage of construction materials; incompetent project team; improper project planning and scheduling; and contractor's financial difficulties. The factors were grouped into eight groups of causes of delays. Group of contractor- related delays was ranked the foremost significant groups that cause delays, followed by group of equipment-related delay, client related delays, material-related delays, finance-related delays, consultant-related delays, external- related delays, and labor related delays. The second objective of this research was to spot the common effects of delays in construction project. This objective has been successfully achieved. There are six factors that affect delays in construction project which includes: time overruns cost , dispute, arbitration, total abandonment; and litigation. The results of study shown time overrun and price overrun were the two commonest effects of delays in construction project.

From this study, some points are given as:

1. Construction project delays caused by contractors are due mainly to the low technical and managerial skills of contractors in developing countries. so as to enhance contractors' managerial skills there's a requirement for continuous work-training programs for personnel within the industry to update their knowledge and be conversant in project management techniques and processes.
2. Delays in construction projects are often reduced through the joint efforts of participants within the housing industry . Clients, designers/consultants, contractors, suppliers, finance sources, educational institutions, manufacturers, and therefore the government should cooperate to supply the infrastructure necessary for efficient management. a way of achieving this is often to formulate and execute a participatory program for the event of the development industry through a fanatical national agency.
3. All parties involved in project agreed that delay occurs mostly during the development phase. Therefore, in resolving those problems, suggestion to extend construction productivity, followed by enhancing the expertise and skill of human resources, and conducted site meetings more frequently. A

strategic view of solving delay problems should be considered as an importance of management aspects, the consequences of data and knowledge flow between the organization levels, and importance of top management contribution in solving the issues.

4. Modern construction equipments reduce the human labor that increasing the capacity of the corporate to accomplish the task within the targeted time-frame . Thus, productivity are often enhanced by using the fashionable equipments with reduced accidents and conflict.
5. Proper project plan should be prepared before implementing the project. The project plan is a blue print or a road map for the measurement of the work performed at different phases of the development.
6. Project schedule are to be set during a realistic manner. Fake or manipulated project schedule may cause either before estimated or delayed than expected. Thus arise conflict which is itself an important factor for the delay of construction work on implementation phase.

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