

Case Studies on Dispute Resolutions in Construction Projects for Framing an Expert Solution

B. Hemanth Sai Kalyan, A. Arokia Prakash

Abstract: *Disputes in construction industry are reoccurring and are inevitable. Disputes and conflicts take a lot of time to solve and therefore the construction process is put on hold until the problem is sorted out. Legal system is burdened with many cases resulting in the delay of judgment. Disputes between owners and contractors can be developed due to several reasons such as the nature of the work, its complexity, magnitude and many others. There have been instances where the industry personnel were instructed to follow certain steps for minimization of disputes such as keeping a check of the contract documents from time to time etc. Even after these things the disputes have not been able to see a solution. The objective of this paper was to provide a solution to this problem in the form of an expert system which can reduce and quicken the dispute settlement procedures. For this research case studies have been carried out on legal cases for which judgment has been pronounced and thus obtaining an idea about the causes of the dispute and the factors influencing the judgment process. Furthermore an expert system has been provided with alternative dispute resolution techniques other than litigation.*

Keywords: *Causes, Contract, Dispute resolution, Expert system, Judgment, Performance.*

I. INTRODUCTION

The diversity in the construction industry is of opinions, knowledge, different work process, different talents etc. This is an indication that not everyone in the industry are on the same page and this results in differences or conflicts[1]. Also the disputes are not solved easily and are dragged unnecessarily which not only makes it a time taking process but also by the end of it the credibility of the solution is lost[2]. The arrivals of disputes, though known to everyone in the industry, knowledge of the causes of disputes is very limited and there are no proper measures to counter them[3]. The need for a detailed and systematic classification of causes of disputes is very much required[4].

In Indian scenario the most common way to resolve a dispute is to go to the court of law. This is not entirely a wrong step but given the condition of the Indian Judicial System is strangled in thousands of cases over the years[5].

Case studies on the legal disputes creates a wider perspective of what are the causes for the ignition of the disputes, what are the versions of both the parties involved, on what factors the judgment given are influenced and how the solution is beneficial for the project, etc. can be identified[6].

The need for Alternate Dispute Resolution (ADR) is very much required. This is nothing but an alternative way to solve a problem. This should be in such a way that there should be a quick, efficient and reasonable solution is found.[7]

There are other ways of solving a dispute apart from litigation such as negotiation, mediation, arbitration etc. but under what criteria should a particular method be used is ambiguous. Expert system arrives at a solution for this. Expert system is nothing but a tool which can be utilized for acquiring solutions with minimal human interference. The expert system leads the way through the problem, helping to categorize the nature of the problem and finally arrive at a solution for it.[8]

The objective of this study is to find the causes of the disputes and the factors affecting the decision making. By these considerations, a prototype of an expert system is framed which gives us the best possible way to come out of a dispute

II. METHODOLOGY

A. Data collection

For this project case studies on the litigated cases are done. This gives an idea of the proceedings in the dispute resolution through legal point of view. Legal perspective is taken for the reason that it takes into consideration both versions of both the parties involved in the dispute.

Frequent visits to The High Court of Judicature at Hyderabad for the States of Andhra Pradesh and Telangana have been made to get the documents of the resolved cases. The full case hearing is needed to have a clear understanding of the process involved in the judgment and the factors which influence the judgment. Also the versions of both parties can be studied which will help us understand the problems faced by them in depth.

The table gives a brief idea of the case studies done.

Revised Manuscript Received on 30 May 2019.

* Correspondence Author

B. Hemanth Sai Kalyan*, Department of Civil Engineering, SRM Institute of Science & Technology, Kattankulathur, Kancheepuram District, Tamil Nadu, India.

A Arokia Prakash, Assistant Professor, Department of Civil Engineering, SRM Institute of Science & Technology, Kattankulathur, Kancheepuram District, Tamil Nadu, India.

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S.No	Case Details	Causes Categorized	Judgment	Time Taken to Solve
1	Exemption from compensating insured amount.	Performance, Insurance	No evidence to prove against insurance claim. So, amount has to be compensated.	12 years
2	Challenging the contract norms	Contractual	The said contract norms are required to be satisfied for awarding of contract which is not done. So no fault in the contract.	6 months
3	Challenging the award of the arbitrator.	Performance, Payment, Arbitrational, Contractual	The arbitrator was found to accuse the contractor for other's mistake. The bills were not cleared also evidence for faulty construction is there. Hence arbitral award is wrong.	3 years
4	Denial of payment stating poor quality of material.	Performance, Arbitrational, Payment	The reasons stated are sham and no evidence to produce. Payment has to be done within one month.	5 years
5	Challenging lower court's decision for the benefit of the project.	Performance, Arbitrational, Contractual	When arbitration had to be done it hasn't, resulting in delay and losses. The quality of materials is also poor. Therefore work should be continued with quality material	2 years
6	Compensation for the land taken is very less	Compensation, Land Acquisition	There was involvement of middle men in the compensation process resulting in deficient payment. The order is to fulfill the payments and only then carry on with the construction in the acquired land	15 years
7	Poor quality construction either to be compensated or pay back the full amount.	Performance, compensation, Payment	Evidence shows involvement of corruption in this case. The option is given to the sufferer weather to make repairs or get back the full amount which in both cases the contractor has to pay.	10 years
8	Petition about need for arbitration.	Performance, Arbitrational, Contractual	No need for arbitration because there is no breach in the contract documents in the first place. The quality is also up to the mark.	1 year
9	Challenging poor performance claim	Performance, Arbitrational, Payment	Arbitration has taken place. The findings are not there to justify poor performance. Hence the payments have to be rightfully done.	2 years
10	Challenging the payments done citing poor performance.	Performance, Payment, Contractual	The contract documents are not clear which allows the contractor to not plead guilty. The quality of work performed is not up to the mark but the contractor cannot be blamed for this	10 years
11	Contending the unreasonable restrictions for awarding a contract.	Contractual	Various parameters are required to be satisfied for awarding a contract which are of utmost importance. Hence no fault.	4 months
12	Petition about poor construction quality and the compensation to be paid for the same.	Performance, compensation, Payment	Though the quality of construction is poor in this case, the court feels that it is the mistake of the petitioner to identify the said poor quality during the initial stages of the construction itself and also the contract period has been passed which means that the defendant is in no way responsible for the payment of compensation.	3 years
13	Petition about poor construction quality and reconstruction	Performance, compensation	There is no evidence placed before the Court to show that the overhead tank had been built with low quality materials. As such, the writ petition is liable to be dismissed. Hence, it is dismissed.	11 months

14	Petition about objections on the award given by the arbitrator.	Performance, Payment, Arbitrational, Contractual	The allegations made by the petitioner had not been substantiated with sufficient records. Further, there is no evidence placed before this Court to show that the arbitrator was at fault. Hence, it is dismissed.	8 years
15	Petition against arbitral award to be paid to the contractor.	Performance, Payment, Arbitrational, Contractual	Respondent and the arbitrator produced enough evidence which make sure that the respondent receives the money as put by the arbitrator and the petitioner is liable to pay even the interest on the money which pertains to escalation of costs.	6 years
16	Claim against rejection of contract.	Performance, Contractual	The work to be carried out is of public importance and thus it cannot be awarded to someone with less expertise. Hence appeal is dismissed.	5 months
17	Petition against local authorities for obstructing the construction.	Contractual, Illegal	As long as the construction is being done with valid permit and in the absence of statutory prohibitory orders, police should give assistance and protection. The local authorities can proceed with appropriate orders of the prevention of it.	1 year
18	Land acquired for by pass road is being used for construction of fly over. This has to be stopped.	Compensation, Land Acquisition, Contractual	There is no merit in this petition as the petitioner has a private interest as his land is subject matter of acquisition for the construction of by pass. Whereas that proposal has been shelved permanently and there is enough evidence to prove that.	4 months
19	Feud over construction of first floor which is against the contract	Performance, Payment, Contractual	As per the agreement between the parties the construction was to be done on the first floor only. Thus the complaint of the respondent that some additional works have to be executed above the agreed terms. Hence the appeal is dismissed.	6 years
20	Demolition of unauthorized construction and compensation for it.	Compensation, Contractual, Illegal	There has not been any action taken even after the notices were given against the illegal construction. By lapse of time, the construction stood impliedly compounded and legalized. Hence the demolition of the construction is fair.	1 year
21	Petition challenging the legality of the construction.	Illegal	There is enough evidence that the construction was started 40 years ago and by that time no violation of building rules was done. So, illegal construction is a false acquisition.	1 year
22	Usage of workers illegally and depriving payment to them.	Contractual, Illegal, Payment	Construction workers being used as drivers which are against Construction workers welfare fund act and thus they have to be utilized for their respected work only.	5 years
23	Construction was shifted to other place with no proper reasoning.	Land Acquisition, Contractual	Initially the land taken for the proposed construction falls under forest land. Hence the place has been shifted. No fault is found.	4 months
24	Refund of amount due to changes in the plot allotment	Contractual	Since the initial amount has been paid for the said plot, the contractual changes which happened later amount has to be refunded irrespective of the previous confirmations.	11 years
25	Construction in the land given on rental basis which affects the fertility of the land.	Land Acquisition, Contractual, Illegal	The said construction is only a temporary one which does not damage the land. There is no evidence to prove it either. Hence dismissed.	15 years

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26	Payment issues because of delay incurred.	Payment	Delay caused increase in prices which cannot be afforded by the buyer. Hence the construction to be handed over to the buyer as per initial fixed price or compensated accordingly with interest.	1 year
27	Flats delivered with long delays and flaws. Compensation demanded.	Performance, Payment	Reasons given by contractor for justifying the delay are not convincing. The buyers must be compensated for the delay at the rate of 12% p.a.	3 years
28	Flats delivered with long delays. Compensation demanded	Performance, Payment	Reasons given by contractor for justifying the delay are not convincing. The buyers must be compensated for the delay at the rate of 15% p.a.	4 years
29	Construction of substandard houses, with delays.	Performance, Payment, Compensation	The government authority responsible for the construction of houses has no justifications regarding delay. Therefore the compensation for the same has to be paid.	2 years
30	Inordinate delays in construction of houses. The quality of construction is poor.	Performance, Payment	Delays without reason. Housing delivery of possession made conditional on payment of additional prices. Unfair trade practice of increase is unjustified.	2 years
31	Petition about poor construction quality and the compensation to be paid for the same.	Performance, Payment, Compensation	Material found short during technical examination of work. Balance work done is not up to the mark. Hence the compensation for the construction has to be paid.	10 years
32	Breach of contract with respect to poor quality of work. Arbitral award questionable.	Performance, Arbitrational, Contractual	The performance has not been corrected even after repeated complaints. Arbitrational award is not mentioned in contract. Therefore judgment is revised and presented in favor of buyers.	27 years
33	Breach of contract with respect to poor quality of work. Arbitral award questionable.	Performance, Arbitrational, Contractual	The quality of work done is not according to the contractual norms. Arbitration done is not satisfactory and also breaking the contract. Hence work has to be redone.	8 months
34	Surrender of poor quality house. Compensation for usage of such house for a period of three years.	Performance, Payment, Compensation	The poor quality of construction is noticed and responsibility for which is taken by the authority. But for the time period of staying in the house payment in the form of rents has to be paid. Hence the petition is partly allowed.	4 years
35	The construction of the houses in the society is of very low quality and thus compensation being demanded.	Performance	There is no evidence regarding poor quality construction. Also tests carried out in the later part by agency appointed by the court also stated the same. Therefore it is a false allegation	3 years

From the case studies a clear understanding of what are the main causes which are the responsible for the arrival of a dispute are the case studies a clear understanding of what are the main causes which are the responsible for the arrival of a dispute are of disputes from the cases studies, shown below in the table are the rankings of most frequent causes.

Table 2: Ranking of Causes

Causes	Occurrence (No/of times)
Performance	23
Contractual	19
Payment	16
Compensation	10
Arbitration	9

Illegal	5
Land Acquisition	4
Insurance	1

From the 35 case studies done, 23 of them are performance related issues which include poor quality of work, poor material quality, etc. Followed by contractual related and payment issues, occurred for 19 times and 16 times respectively. Some of the cases are inter related which each other which is a combination of two or more causes. It can be understood that it is in most often times an amalgamation of different causes which are both inter-related and intra-related amongst each other and thus it suggests that no particular cause is individually responsible for a dispute.



B. Statistical Analysis of Data Using SPSS Software.

Statistical Package for Social-Sciences-SPSS22.0 is used in this study. Table 3 shows the means (frequency) and of each cause.

Table 3: Means of causes

Causes	Mean
Performance	0.6571
Compensation	0.2857
Arbitration	0.2571
Land Acquisition	0.1143
Insurance	0.0286
Payment	0.4571
Contractual	0.5429
Illegal	0.2286

III. RESULTS & DISCUSSIONS

A. Preliminary Observations

From the case studies and the software analysis, the observation is that among all the causes, performance stands first with the highest mean value of 0.6571.

Figure 1 is the pie chart representation of the causes.

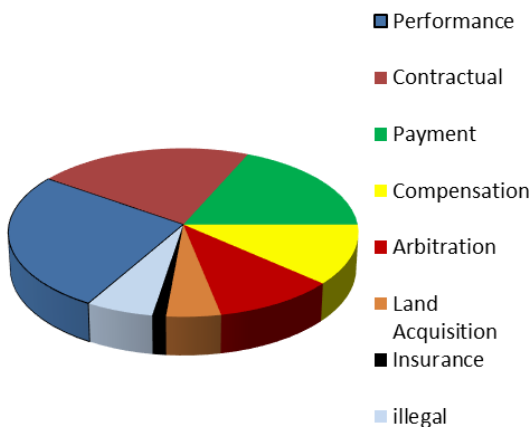


Fig 1: Causes of Disputes

B. Expert System

From the obtained results and the observations from the judicial point of view, the expert system has been framed with respect to its convenience, ease of understanding and the problem solving capacity. This system has importance to its name in the form of an expert system because of its ability to solve the disputes with minimal human interference.

The process of framing of expert system involved the inputs of legal advisors from esteemed construction firms along with the opinions of the people in industry with vast experience. The problem solving capacity of each of the advised solution is also taken into account. Factors influencing the disputes resolutions as observed from the legal case studies are also considered while framing of the expert system.

This is advantages because it gives an alternative solution to the issue depending on its nature and the factors considered are also inclusive of whose side the mistake is. These will not only let helps in identifying the mistakes happening in the first place but also gives a better understanding of the case as it

proceeds, so that the decision to be taken will have a correct and precise solution.

C. Prototype of The Expert System

The proposed prototype shows the categorization of disputes and the possible solution. However it only projects the best possible way to solve a particular dispute but it doesn't actually solve the dispute by itself.

Figures 2, 3 and 4 show the expert system for the performance cause. The characteristics of a particular problem are identified through the flow chart which narrows down to the solution.

Figure 5 depicts the expert system for the rest of the causes and their possible solutions of alternative dispute resolution techniques.

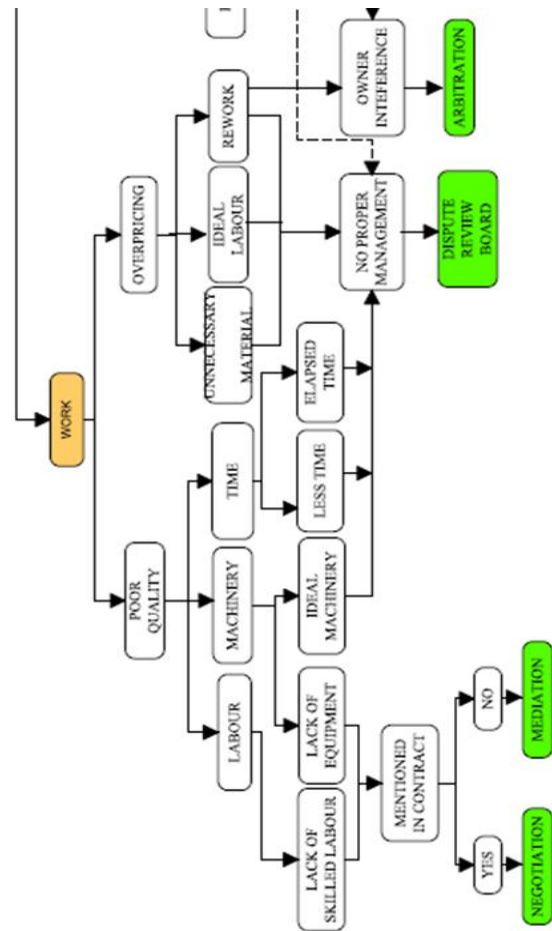


Fig 2: Categorization of performance (Work)

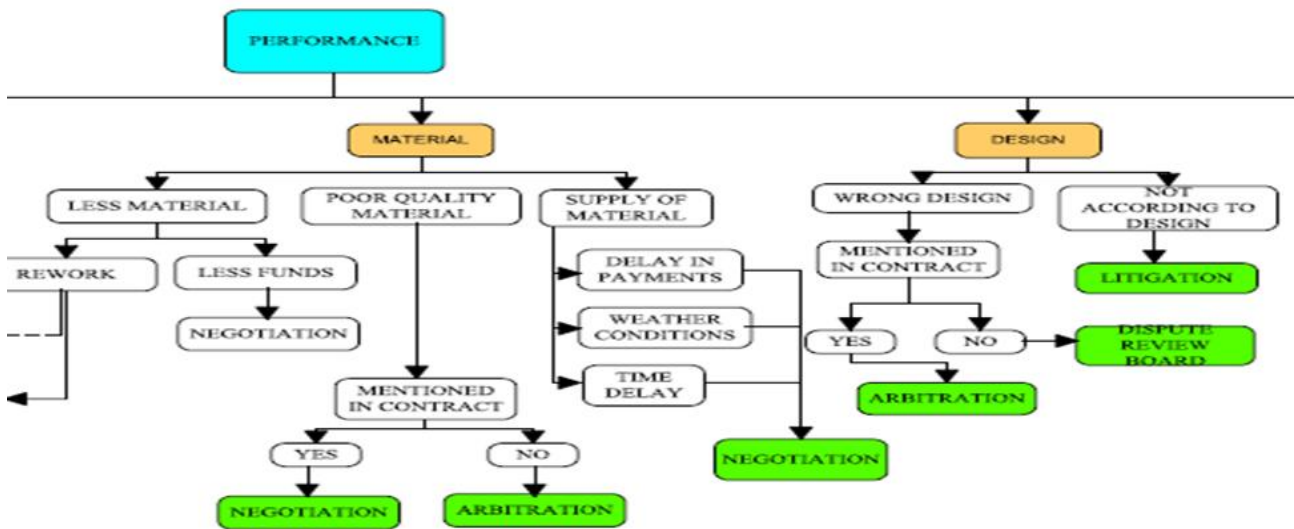


Fig 3: Categorization of Performance (Material, Design)

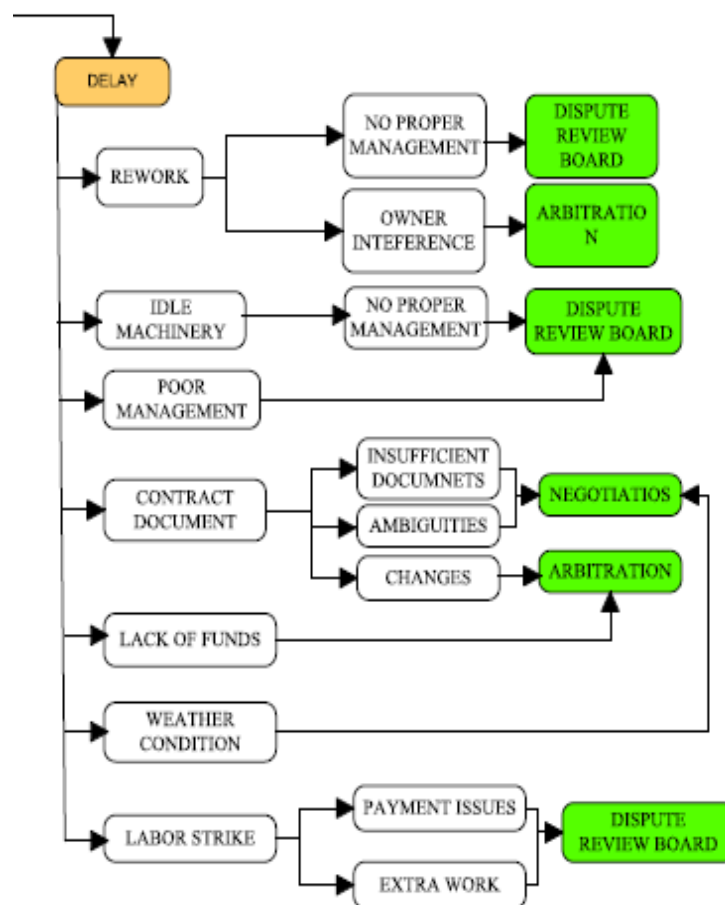


Fig 4: Categorization of Performance (Delay)

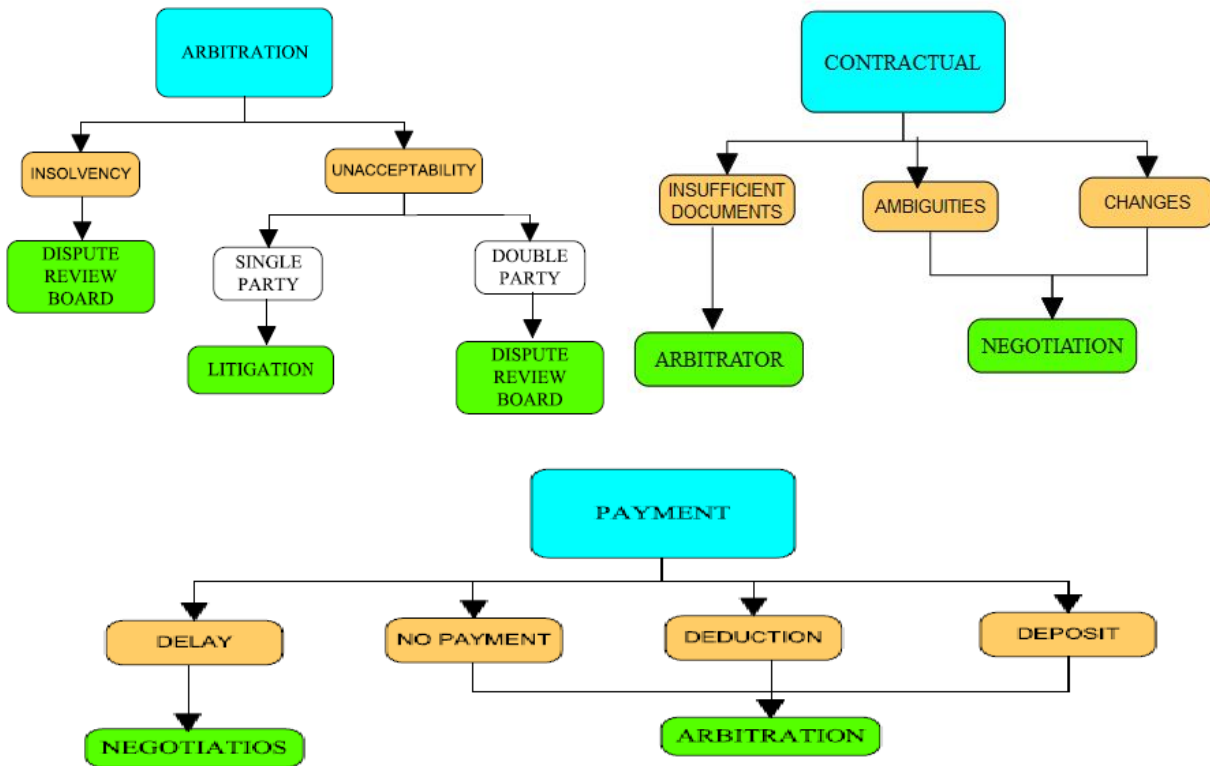


Fig 5: Expert System for other causes (I)

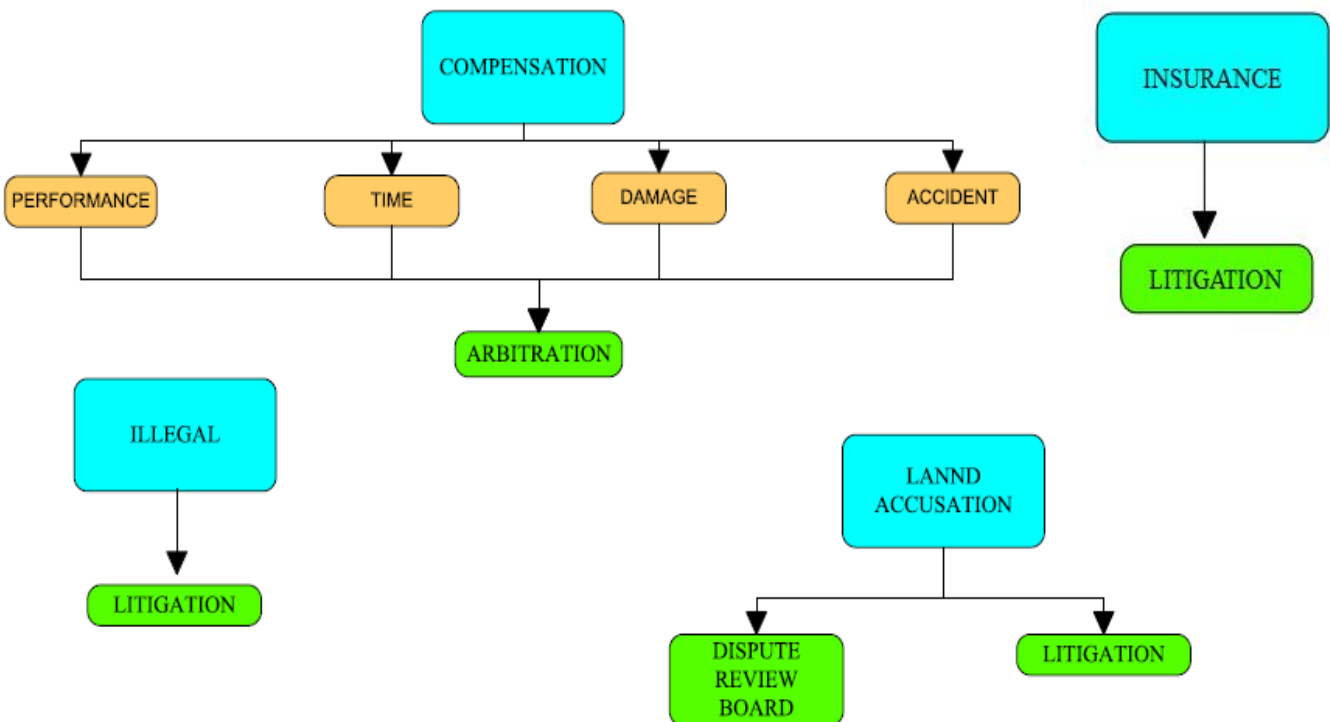


Fig 6: Expert System for other causes (II)

IV CONCLUSION

- The causes of disputes are broadly classified in which performance stands top among the most frequent causes followed by contractual and payment.
- Dispute resolution techniques other than litigation include

negotiation, mediation, arbitration and dispute review boards.

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- Categorization of cause helps in identifying the core of the problem and providing the apt solution.
- These alternative techniques reduces the time for solution and lessens the burden on judicial system
- The proposed system is only the approach to solve a dispute but not the actual solution.
- However if the result obtained by following these methods to solve a dispute is not satisfactory, the option of litigation can always be used.

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AUTHORS PROFILE



Mr. B. Hemanth Sai Kalyan completed B.E Civil Engineering at D.Y. Patil School of Engineering and Technology in Pune, Maharashtra and pursuing M.Tech in Construction Engineering and Management from SRMIST, Chennai, Tamil Nadu.



University, at UK.

Mr. A. Arokia Prakash (Corresponding Author) working as an assistant professor of Civil Engineering in SRIST, Chennai, Tamil Nadu. Completed B.E Civil Engineering at Annamalai University, Chidambaram, and Masters in Science at Glasgow Caledonian