Conceptual Model Analysis on Effects of Detain in Construction Industry by Identifying Various Causes - A Case Study

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Abstract. In construction, the time extended further than the mentioned date in the document, or beyond the time decided on by the participants for the completion of a task is defined as the Detain. The study defines the main reasons and effects of detain in building sectors. Mind razing identified a variety of detained parameters in construction sector. In total, forty-six (46) variables were shortlisted from previews literatures to form part of the survey questionnaire and classified into nine (9) major parameters. Descriptive analysis, ranking analysis and simple percentages were used by SPSS software version 22 to analyze the data. Based on this research, the most contributing parameters are Contractor related parameters (Lack of interaction and synchronization between owner and contractor “86.6%” in Kabul and “73.3 %” in Chennai) Consultant related parameters (Poor site management & poor financial control on site “84.1%” in Kabul and “80.0 %” in Chennai); Owner related parameters (Selecting inappropriate contractors “76.8 %” in Kabul and “57.8%” in Chennai) participants selected and few advices were given to decrease and minimize detain in construction sector.

1. Introduction
When construction sector is completed on schedule, with budget, according to requirements, and satisfaction of stakeholders, it is accepted as successful. Nonetheless, many sectors have not finished as planned. Alternatively, due to complexities of the activities and their significance, they completed before or after the timetable. [1] Experience and literature in most countries has shown that productive sectors must be finished within the given dates and given budget. Hence, late submissions are critical to many construction sectors’ income. In the research, several scholars have described these issues as parameters that affect the detain throughout building sectors and also impact the production of the company and the country’s economy. The detain in construction sectors is associated with instance, price, and standard performance due to many parameters. Meanwhile, the elements that affecting detaining in building sectors are identified and evaluated in past 10 years; Anyhow, there is still a need for much understanding to improve that [1]. Contractors in the industry strive to make more benefit through growth in the society. To attain this goal, it is important that contractors accurately define the elements that decreases sector performance and approximate their effect before share level.

Building plans can vary in measures, length, priorities, ambiguity, difficulty, speed and some other dimensions [2]. Because of its impact on sector progress, it is accepted that building company plan plays an important role in construction management. Detains seem to be popular in different building sectors but also cause significant failures to operation sides [3].

2. Research Background
In most construction sectors, detains exist as either simple or complex. Detain in building is described as the exceed time either within the date of the contract or within the date agreed by the companies to deliver a sector[4]. Most scientists have researched the sources, and few studies have analyzed the consequences of construction industry plan
Parameters which lead to take more time than assigned and cost invested in construction sectors, Gaza Strip [5]. Lists the causes for the detain in buildings. This identified the most contributing elements and classes to detains[6,7].

This study identifies the main elements of plan detain in Saudi Arabia[6]. Which was on the assessment of detain elements in the construction industry in Karnataka region. Top 10 main reasons of detains are listed in the building industry [7]. The key reason of construction detain, the consequences of detains and the strategies of decreasing construction detains are discussed[8]. Compiles the results of the survey anticipated to identify, from the client's perspective, the most significant detain causes in construction work. An analysis of a parameter required understanding the dependencies between them[9]. Compiles the findings of the planned survey to determine the most important reason for detain in construction work from the client's view. A parameter analysis included an understanding of the dependencies between them[10]. To overcome the constraint, the paper discusses the causes of detains in operations that have not been completed as planned. This refers to an approach which explores the quantitative aspects of the detain issue[11].

This thesis discusses and synthesizes available study on regions and impact of sector modification, establishes two terminologies for reasons of modification and impacts of modification, and explains how these terminologies can be used during the sector modify work[12]. This research adopts an unified way and have objectives to examine the influence of particular triggers on specific effect[13]. Review of the pass literature deduces the causes of detain. Principal types of detain are of two types: forgivab le detain and forgivable detain[14].The reason for detain are deduced through the review of pass study [15].This study first recognized the primary elements influencing detains in the Indian construction industry and then developed the connection between the hypercritical features for the creation of foresee models for the detain impact assessment of these elements. [16,17].

The outcome of this research indicate the important reason for the detain in the development of social plans relating to creators, end user shifts, climate conditions, location conditions, detain in deliveries, economic conditions and quantity increase [18]. This research examines the reasons of detains at various construction levels and their impact on construction sectors in Ethiopia. This study examines the causes of construction sector detains in Ghana to identify the most crucial reason, according to the main participants in the sector; customers, consultants and contractors [19]. The objective of this research is to identify causes and effects and disturbances in the study of construction sectors is to investigate the causes and effects of detains on the delivery time of construction sectors. [20].This study is intended to check the reasons and effects of detains on the delivery time of construction sectors [21]. The main objective of the analysis is to find the significant elements that cause detains in the construction of road and road construction sectors in particular [22]. This paper discusses the important reasons of detains in infrastructure sectors in Mecca, Saudi Arabia and contrasts these with sectors across the world and other Gulf countries[23]. The objective of this research was to identify critical elements that cause detain in the construction in Afghanistan. Eighty-three causes of detain were reported from in-depth literature studies [24]. This research aimed to propose the elements that caused detains in road construction sectors in Kenya [25]. This work aimed at first testing the occurrence of detains in the obtaining of materials and equipment in highway sectors in Nepal [26]. This study established the major parameters that cause time overruns in Malaysian construction industry [27]. This work aims at defining the elements contributing to building cost overruns in Afghanistan [28]. The main aim of this study is to identify the problem of road construction detains in Perak state [29]. Overall previous studies listed above focused on finding reasons of detain. Few researches established variables that were missing or overlooked many essential categories. It may be misleading or lead to incorrect interpretation.

In this paper, questionnaires are written, checked and interviews are conducted with various highly experienced construction engineers from Afghanistan and India. The research is attempted to use the data collected to measure and provide a complete list of detain elements for construction sectors in both countries in order to reduce these detain parameters in the upcoming sector and monitor the detain.

3. Research methodology

3.1. Detain parameters

The research methodology describes the methods and strategies used in this study. Detain parameters were categorized by comprehensive literature analysis and advice from construction industry experts into Nine major categories. The Figure 1 shows the 9 parameters taken for the study.
These parameters were classified into nine (9), based on previous section and as advised by researcher: (1) Consultant Related Parameters; (2) Contractor Related Parameters; (3) Design Related Parameters; (4) Equipment Related Parameters; (5) External Related Parameters; (6) Labor Related Parameters; (7) Material Related Parameters; (8) Owner Related Parameters; and (9) Sector Related Parameters.

3.2 Preparation of questionnaires
The interview questionnaires were designed to maintain the views of construction industry people in India and Afghanistan. Since the parameters listed above each parameter consists of 5-6 questions, and the total question number is 46. The question is designed for highly experienced construction professionals (sector managers, site managers, technical office managers, technical office engineers, procurement managers, engineering advisors, large contractors, subcontractors and engineers directly involved in the construction sector).

3.3 Division of questionnaires
Two major division of the questionnaires were prepared the first division includes: Personal information of the participant (Gender, Age, Education, work experience of construction sectors, work position, etc.), second division includes information about causes of time detains in construction sectors. Each person is made to fill the form containing 46 question that focused on the parameters of detains in construction, those form to the experts was delivered through mails.

3.4 Questionnaires survey
Questionnaires were mailed to respondents (Clients, Managers, Engineers, and Contractors), completed forms were requested to be mailed back to the researcher in Kabul Afghanistan and also in Chennai India. Total approached for these questionnaires equals to one hundred and fifty (150) all the participates responded but some of the form was not filled completely, excluding the incomplete form analysis was carried out for one hundred twenty-seven (127) responses to identify major detain contributing parameters.

3.5 Analysis of data
The collected data were analyzed through descriptive and correlation method by SPSS software Version 22. All the data collected for different parameters was coded in MS excel the data is transferred to SPSS software and analyze the frequency, percentage, and graphical representation of each questions. From which the high important parameter and least important parameter for detain is obtained in both countries.

4. Result and discussion
4.1 Demographic characteristic of the participant’s response
Based on response of the participants from Kabul Afghanistan table 1 shows that (78%) of the respondents from Afghanistan were male and (22%) were female. The age of (20-30) years old responded the highest. (70.7%) of the respondents were Bachelor of Technology, (26.8%) Master of Technology and only (2.4%) were with education background of PhD. Almost (85.4%) were engineers and (1.2%) of them were contractors. And finally (57.3%) the respondents had work experience of (0-5) years. Respondents Detail in Kabul Afghanistan is n=82
Table 1. Summarize of the Respondent Characteristics in Kabul Afghanistan.

| Variables         | Study Participants | Gender Frequency/ Sum | Percentage % |
|-------------------|--------------------|-----------------------|--------------|
| Gender Male       | 64                 | 78.0 %                |
| Gender Female     | 18                 | 22.0 %                |
| Age 20-30 age old | 58                 | 70.7 %                |
| Age 30-39 age old | 13                 | 15.9 %                |
| Age 40-50 age old | 8                  | 9.8 %                 |
| Age Above 50 age old | 3            | 3.7 %                 |
| Education Bachelor of technology | 58 | 70.7 % |
| Education Master of technology | 22 | 26.8 % |
| Education PhD     | 2                  | 2.4 %                 |
| Designation Engineer | 70          | 85.4 %                |
| Designation Contractor | 1          | 1.2 %                 |
| Designation Client | 2                  | 2.4 %                 |
| Designation Manager | 9              | 11.0 %                |
| Experience 0-5 age | 47                 | 57.3 %                |
| Experience 6-10 age | 23              | 28.0 %                |
| Experience 11-15 age | 4               | 4.9 %                 |
| Experience >15 age | 8                  | 9.8 %                 |
| Total             | 82                 | 100 %                 |

Table 2 shows the respondents from India, around (75.6%) of the respondents in Chennai India were male and (24.4%) were female. (48.9%) of the respondents were between age of (20-30) years old, and (70.7%) of the respondents were graduate, (26.8%) from post graduate and only (2.4%) were with education background of PhD. Almost (84.4%) were engineers and (6.7%) of them were managers. And finally (42.2%) the respondents had work experience of (0-5) years. The total of 50 questionnaires were send but only 45 people respondents back. Respondents Detail in Chennai India is n=45

Table 2. Summarize of the Respondent Characteristics in Chennai India.

| Variables         | Study Participants | Gender Frequency/ Sum | Percentage % |
|-------------------|--------------------|-----------------------|--------------|
| Gender Male       | 34                 | 75.6 %                |
| Gender Female     | 11                 | 24.4 %                |
| Age 20-30 years old | 22            | 48.9 %                |
| Age 30-39 years old | 16             | 35.6 %                |
| Age 40-50 years old | 5               | 11.1 %                |
| Age Above 50 years old | 2         | 4.4 %                 |
| Education Bachelor of technology | 18 | 70.7 % |
| Education Master of technology | 24 | 26.8 % |
| Education PhD     | 3                  | 2.4 %                 |
| Designation Engineer | 38            | 84.4 %                |
| Designation Contractor | 4           | 8.9 %                 |
4.2 Responses based on consultant parameters.

Lack of consultant expertise and disagreement between consultant & design engineer, late in owner by revision and acceptance of design documents, inspection and testing, inadequate site analysis. According to the case study, ‘poor communication and coordination between owner and contractor’ is one of the main frequent causes of detain which is found in questionnaire. It is observed from table 3, the important cause of detain according to consultant related parameters in Kabul Afghanistan and Chennai were poor communication and coordination between owner and contractor as 86.6% and 73.3% respectively agreed to it.

Table 3. Consultant Related parameters cause detain in construction sectors.

| Name | Detain Parameter Description | Name of Countries | percentage of Respondents Scoring |
|------|-------------------------------|-------------------|----------------------------------|
|      | Low effect | Medium effect | High effect | Low effect | Medium effect | High effect | Low effect |
|      | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage |
| Lack of consultant experience and conflict between consultant & design engineer | Afghanistan | 37 | 45.1% | 38 | 46.3% | 7 | 8.5% |
| | India | 10 | 22.2% | 27 | 60.0% | 8 | 17.8% |
| Late in reviewing and approving design documents | Afghanistan | 38 | 46.3% | 33 | 40.2% | 11 | 13.4% |
| | India | 22 | 48.9% | 21 | 46.7% | 2 | 4.4% |
| Performing inspection and testing | Afghanistan | 31 | 37.8% | 21 | 25.6% | 30 | 36.6% |
| | India | 19 | 42.2% | 5 | 11.1% | 21 | 46.7% |
| Inaccurate site investigation | Afghanistan | 51 | 62.2% | 7 | 8.5% | 24 | 29.3% |
| | India | 23 | 51.1% | 6 | 13.3% | 16 | 35.6% |
| Poor communication b/w owner and contractor | Afghanistan | 71 | 86.6% | 4 | 4.9% | 7 | 8.5% |
| | India | 33 | 73.3% | 3 | 6.7% | 9 | 20.0% |
| Total | | 127 | 100% | |

Table 4. shows the result based on contractor parameter.

| Category Name | Detain Parameter Description | Name of Countries | percentage of Respondents Scoring |
|---------------|-----------------------------|-------------------|----------------------------------|
| Contractor Related Parameter | Inappropriate contractor’s policies and inadequate contractor experience | Afghanistan | 51 | 62.2% | 30 | 36.6% | 1 | 1.2% |
| | India | 20 | 44.4% | 23 | 51.1% | 2 | 4.4% |
| Contractor Related Parameter | Inappropriate construction methods | Afghanistan | 39 | 47.6% | 39 | 47.6% | 4 | 4.9% |
| | India | 20 | 44.4% | 20 | 44.4% | 5 | 11.1% |
| Contractor Related Parameter | One of the given options have high effect on detain | Afghanistan | 62 | 75.6% | 14 | 17.1% | 6 | 7.3% |
| | India | 27 | 60.0% | 12 | 26.7% | 6 | 13.3% |
4.3 Responses based on contractor parameters.

Poor site control and tracking was one of the main causes of sector modifications and detains. This can be due to inadequate managerial skills, lack of experience or improper management structure, operation and controls. Bad site management leads to detains in reacting to the problems that arise at the site and has detrimental impact on overall success in the job. So the detain parameters which is in Kabul and Chennai cities is the poor site management and poor financial control as per the result from table 4, from the respondents (84.1%) from Kabul and (80%) from Chennai agreed to it.

4.4 Responses based on equipment parameters.

Many of the contractors do not own the equipment needed to build the job. When needed, they rent out the equipment. The machinery is in short supply during the season, when there are many construction sectors, and is poorly maintained. This leads to equipment failure which causes the progress to be impeded. In many sectors the widespread use of large equipment is rare.

The contractors are given the option to employ where equipment is needed. In the rare cases where a contractor owns any plant and equipment, failure is a major parameter of detain possibly due to old age or lack of planned maintenance. In equipment related parameters in both cities the most of respondents chose the frequent equipment breakdown to be as one of the causes of detain. Table 5 shows the result based on equipment parameter. The agreed percentage is (68.9%) in Chennai and (74.4%) in Kabul and in Chennai (6.7%) felt that the shortage and low efficiency of equipment has low effect and in Kabul (4.9%) felt that equipment allocation and low efficiency of equipment has low effect on detain in construction.

| Category Name | Detain Parameter Description | Afghanistan | India |
|---------------|-----------------------------|-------------|-------|
| Equipment allocation problem | High effect Frequency | 38 | 18 |
| | Percentage | 46.3 % | 40.0 % |
| Slow mobilization of equipment | Medium effect Frequency | 40 | 18 |
| | Percentage | 48.8 % | 40.0 % |
| Equipment related parameter | Low effect Frequency | 4 | 9 |
| | Percentage | 4.9 % | 20.0 % |
| Improper and inadequate modern equipment | Agree | 61 | 31 |
| | Percentage | 74.4 % | 68.9 % |
| Shortage and low efficiency of equipment | Disagree | 6 | 9 |
| | Percentage | 73 % | 20.0 % |
| | Neutral | 15 | 5 |
|  | Percentage | 18.3 % | 11.1 % |
|  | Sometimes | 34 | 34 |
|  | Percentage | 41.5 % | 37.8 % |

Table 5: Equipment Related parameters cause detain in construction sectors.
4.5 Responses based on material parameters

Detain in building site materials is often seen as a contributory cause of cost overruns in developing countries’ construction sectors. Nevertheless, not much research work seems to have been carried out that examines whether this is actually the case and also assesses the causes of these detains and the extent of their effects on sector costs. Shortages of basic materials such as sand, cement, stones, bricks, and iron can cause major sector detains. Poor procurement and poor quality of materials is taken as the major parameter that causes detain in construction industry with (72.0 %) high effects in Kabul and high effect of (64.4%) in Chennai which is shown in Table 6.

### Table 6. Material Related parameters cause detain in construction sectors.

| Name of Category | Detain Parameter Description | Name of Countries | Percentage of Respondents Scoring |
|------------------|------------------------------|--------------------|-----------------------------------|
|                  | Detain in manufacturing and damage of sorted materials | Afghanistan | 30 36.6 % 7 8.5 % 45 54.9 % |
|                  | Detain in manufacturing and damage of sorted materials | India | 21 46.7 % 3 6.7 % 21 46.7 % |
|                  | Poor procurement and poor quality of materials | Afghanistan | 59 72.0 % 4 4.9 % 19 23.2 % |
|                  | Poor procurement and poor quality of materials | India | 29 64.4 % 5 11.1 % 11 24.4 % |
|                  | Changes in material types and specifications during construction | Afghanistan | 30 36.6 % 46 56.1 % 6 7.3 % |
|                  | Changes in material types and specifications during construction | India | 17 37.8 % 19 42.2 % 9 20.0 % |
|                  | Escalation of material prices and unreliable suppliers | Afghanistan | 25 30.5 % 42 51.2 % 15 18.3 % |
|                  | Escalation of material prices and unreliable suppliers | India | 15 33.3 % 16 35.6 % 14 31.1 % |
|                  | Shortage and late delivery of materials | Afghanistan | 39 47.6 % 37 45.1 % 6 7.3 % |
|                  | Shortage and late delivery of materials | India | 21 46.7 % 14 31.1 % 10 22.2 % |

Total | 127 100% |

4.6 Responses based on owner on parameters

Changes initiated by customers are very common, especially during the design phases. These are usually caused by changes in client demands, such as modifications of specifications, reduction of budgets, demand for accelerated completion etc. This consideration is relevant to the developers, since they are responsible for the planning of the sector site before construction begins. As per the responses in table 7, selecting inappropriate contractors has high effect on detain in construction sectors in Kabul as (76.8%) agreed to it and (57.8%) in Chennai.

### Table 7. Owner Related parameters cause detain in construction sectors.

| Category Name | Detain Parameters Description | Name of Countries | Percentage of Respondents Scoring |
|---------------|-------------------------------|-------------------|-----------------------------------|
| Owner         | Poor communication &coordination | Afghanistan | 48 58.5 % 29 35.4 % 5 6.1 % |
| Owner         | Poor communication &coordination | India | 19 42.2 % 14 31.1 % 12 26.7 % |
4.7 Responses based on design parameters

One of the major causes for sector change during the construction phase is design flaws and omissions. Design mistakes and omissions on the part of architects, structural engineers as well as construction services engineers can be caused by human error. Bad brief production at the start of a sector frequently leads to a misunderstanding of client requirements and erroneous assumptions about key aspects of a sector. Such a bad start will inevitably lead to later stage damaging changes to the design. On the other hand, during the course of a sector, the expectations of clients often shift for a variety of reasons. From the table 8, In design related parameters, the incomplete sector design has high effect, (76.8 %) in Kabul and (57.8) in Chennai agreed to it.

4.8 Responses based on external related parameters

Field work of a building plan is performed out in a surrounding environment. It is subject to the effects of heat, wind and temperature variations. Extremes of either of these elements will slow down or even interrupt normal operation of plants, equipment and supplies. In fact, climatic conditions are very difficult to predict and to plan in advance. The climate and weather conditions are then widely cited as one of the main causes of sector detains and unplanned changes. So in external related parameter, the inappropriate government policies and also unexpected surface and subsurface have high effect as (60.0 %) agreed in Chennai, but in Kabul Afghanistan unfavorable weather condition has high effect (57.3 %) agreed to it is shown in Table 9.

Table 8. Design Related parameters cause detain in construction sectors.

| Name of Category       | Detain Parameter Description                                                                 | Name of Countries | Percentage of Respondents Scoring |
|------------------------|---------------------------------------------------------------------------------------------|-------------------|----------------------------------|
| Design Related Parameter | Which of the given options have high effect                                                 | Afghanistan       | Misunderstanding of owner’s requirement by design engineer Frequency % 40 48.8 % 17 20.7 % 8 17.8 % |
|                        |                                                                                             | India             |                                  |
| Complexity of sector design | Insufficient data collection and survey before design                                      | Afghanistan       | Yes 28 34.1 % 14 17.1 % 40 48.8 % |
|                        |                                                                                             | India             | No 19 42.2 % 9 20.0 % 17 37.8 %  |
|                        | Incomplete sector design and defective design                                              | Afghanistan       | Yes 60 73.2 % 9 11.0 % 13 15.9 % |
|                        |                                                                                             | India             | High effect 26 57.8 % 7 15.6 % 12 26.7 % |
|                        | Design changes by                                                                          | Afghanistan       | Medium effect 63 76.8 % 5 6.1 % 14 17.1 % |
|                        |                                                                                             | India             | Low effect 26 57.8 % 7 15.6 % 12 26.7 % |
Table 9. External Related parameters cause detain in construction sectors.

| Name of Category | Detain Parameter Description | Name of Countries | percentage of Respondents Scoring |
|------------------|------------------------------|-------------------|----------------------------------|
|                  |                              | Afghanistan       | Yes Frequency | Percentage | No Frequency | Percentage | Sometimes Frequency | Percentage |
| External related parameter | Inappropriate government policies and changes in regulations | Afghanistan | 43 | 52.4 % | 6 | 7.3 % | 33 | 40.2 % |
|                   |                              | India             | 27 | 60.0 % | 4 | 8.9 % | 14 | 31.1 % |
|                   | Different tactics patterns for bribes and thefts done on site | Afghanistan | 32 | 39.0 % | 9 | 11.0 % | 41 | 50.0 % |
|                   |                              | India             | 18 | 40.0 % | 10 | 22.2 % | 17 | 37.8 % |
|                   | Price fluctuations and global financial crisis | Afghanistan | 38 | 46.3 % | 12 | 14.6 % | 32 | 39.0 % |
|                   |                              | India             | 17 | 37.8 % | 9 | 20.0 % | 19 | 42.2 % |
|                   | Problem with neighbors regarding | Afghanistan | 42 | 51.2 % | 8 | 9.8 % | 32 | 39.0 % |
|                   |                              | India             | 18 | 40.0 % | 9 | 20.0 % | 18 | 40.0 % |
|                   | Unexpected surface and subsurface conditions (soil, water table...) | Afghanistan | 46 | 56.1 % | 10 | 12.2 % | 26 | 31.7 % |
|                   |                              | India             | 27 | 60.0 % | 4 | 8.9 % | 14 | 31.1 % |
|                   | Unfavorable weather conditions and detain in providing services from utilities | Afghanistan | 47 | 57.3 % | 26 | 31.7 % | 9 | 11.0 % |
|                   |                              | India             | 26 | 57.8 % | 15 | 33.3 % | 4 | 8.9 % |
| Total            |                              | 127               | 100%               |

4.9 Responses based on labor related parameters

As the respondents suggested, skilled labor in construction trades is becoming increasingly scarce. This challenge requires construction firms and other stakeholders to take steps to attract and train young people in carpentry, masonry and other industries. As shown in table 10 Low motivation of labors has high effect as (62.2 %) agreed in Kabul construction sectors, (60%) in Chennai agreed the absenteeism and low productivity has high effect and the low motivation and moral has low effect on detain (4.4 %) agreed but in Kabul unqualified / inadequate experienced labors and absenteeism and low productivity of labor has lesser effect on detain.

Table 10. Labor Related parameters cause detain in construction sectors.

| Name of Category | Detain Parameter Description | Name of Countries | percentage of Respondents Scoring |
|------------------|------------------------------|-------------------|----------------------------------|
| Labor Related Parameter | Slow mobilization | Afghanistan | 22 | 26.8 % | 45 | 54.9 % | 15 | 18.3 % |
|                   |                              | India             | 23 | 51.1 % | 12 | 26.7 % | 10 | 22.2 % |
|                   | Absenteeism and low productivity of labor | Afghanistan | 47 | 57.3 % | 10 | 12.2 % | 25 | 30.5 % |
|                   |                              | India             | 27 | 60.0 % | 6 | 13.3 % | 12 | 26.7 % |
|                   | Low motivation and morale of labors | Afghanistan | 51 | 62.2 % | 4 | 4.9 % | 27 | 32.9 % |
|                   |                              | India             | 23 | 51.1 % | 2 | 4.4 % | 20 | 44.4 % |
Shortage and personal conflicts among labors

Afghanistan: 31 (37.8%) 11 (13.4%) 40 (48.8%)
India: 24 (53.3%) 8 (17.8%) 13 (28.9%)

Labor injuries on site and labor strikes due to revolutions

Afghanistan: 37 (45.1%) 11 (13.4%) 34 (41.5%)
India: 22 (48.9%) 6 (13.3%) 17 (37.8%)

Unqualified/inadequate experienced labors

Afghanistan: 48 (58.5%) 10 (12.2%) 24 (29.3%)
India: 22 (48.9%) 8 (17.8%) 15 (33.3%)

Total: 127 (100%)

Table 11: Sector Related parameters cause detain in construction sectors.

| Category Name | Detain Parameter Description | Name of Countries | percentage of Respondents Scoring |
|---------------|------------------------------|-------------------|----------------------------------|
| Complexity of sector | Yes | Afghanistan | 34.1% | 28 |
| | No | Afghanistan | 23.2% | 19 |
| | Maybe | Afghanistan | 42.7% | 35 |
| | Yes | India | 48.9% | 6 |
| | No | India | 13.3% | 17 |
| | Maybe | India | 37.8% | 35 |
| Ineffective detain penalties | Yes | Afghanistan | 40.2% | 33 |
| | No | Afghanistan | 11.0% | 9 |
| | Maybe | Afghanistan | 48.9% | 40 |
| | Yes | India | 48.9% | 6 |
| | No | India | 13.3% | 40 |
| | Maybe | India | 37.8% | 40 |
| Legal disputes between sector participants | Yes | Afghanistan | 43.9% | 36 |
| | No | Afghanistan | 7.3% | 6 |
| | Maybe | Afghanistan | 48.8% | 40 |
| | Yes | India | 55.6% | 25 |
| | No | India | 8.9% | 4 |
| | Maybe | India | 35.6% | 16 |
| Unfavorable contract clauses | Yes | Afghanistan | 52.4% | 43 |
| | No | Afghanistan | 12.2% | 10 |
| | Maybe | Afghanistan | 35.4% | 29 |
| | Yes | India | 51.1% | 23 |
| | No | India | 11.1% | 5 |
| | Maybe | India | 37.8% | 17 |
| Inadequate definition of substantial completion | Yes | Afghanistan | 54.9% | 45 |
| | No | Afghanistan | 17.1% | 14 |
| | Maybe | Afghanistan | 28.0% | 23 |
| | Yes | India | 48.9% | 22 |
| | No | India | 11.1% | 5 |
| | Maybe | India | 40.0% | 18 |

Total: 127 (100%)

4.10 Responses based on sector related parameters
Disputes between various parties are also a common source of change to the sector. Contracts awarded on the basis of low costs are particularly vulnerable to disputes between the parties to the contract. These disputes will result in lawsuits, payment delays, and sector schedule disruption. The legal disputes between sector participants has high effect as (55.6%) agreed in Chennai but in Kabul the major parameter that cause detain in construction sectors is inadequate definition of substantial completion with (54.9%) agreeing on it. The parameter that has low effect in Kabul is the legal disputes between sector participants (7.3%) has agreed but in Chennai the Unfavorable contract clauses and Inadequate definition of substantial completion has low effect in detain with (11.1%) agreeing on it.

Table 11 below shows the result based on Sector related parameter.

4.11 Major parameters causing detain
The major parameter from 9 categories, Contract related parameters (Poor communication and coordination between owner and contractor 86.6% in Kabul and 73.3% in Chennai); Consultant related parameters (Poor site management & poor financial control on site 84.1% in Kabul and 80.0% in Chennai); Owner related parameters (Selecting inappropriate contractors 76.8% in Kabul and 57.8% in Chennai); Design related parameters (Incomplete sector design 76.8% in Kabul and 57.8% in Chennai).

Equipment related parameters (Frequent equipment breakdowns 74.4% in Kabul and 68.9% in Chennai); Material related parameters (Poor procurement and poor quality of materials 72.0% in Kabul and 64.4% in Chennai); Labor related parameters (Low motivation and morals of labors 62.2% in Kabul and Absenteeism & low productivity of labors 60.2% in Chennai); External related parameters (Unfavorable weather conditions 57.3% in Kabul and Inappropriate government policies & regulation 60.0% in Chennai); and Sector related parameters (Inadequate definition of substantial completion 54.9% in Kabul and Legal disputes between sector participants 55.6% in Chennai).
5. Conclusion
A construction sector is effective when proper planning and scheduling, budget and defined quality, stated time and stakeholder satisfaction are achieved in the construction sector. Detain became one of the major challenges in the construction industry. To strengthen monitoring of detains in construction sectors, the impact of the key parameters that affect them must be properly identified. From the study we can conclude that the three major parameter that is related in detain for two cities are.

- Contractor related parameters (Poor communication and coordination between owner and contractor 86.6% in Kabul and 73.3 % in Chennai);
- Consultant related parameters (Poor site management & poor financial control on site 84.1% in Kabul and 80.0% in Chennai);
- Owner related parameters (Selecting inappropriate contractors 76.8% in Kabul and 57.8% in Chennai).

5.1 Recommendation
Subsequent points may be recommended to reduce and track detains in construction sectors according to the above findings:

For contractors
- Build full financial plan and cash flow.
- Implementation of tracking and frequent reporting of important and long lead items, and daily explanation of the causes of any observed pause.
- Option of qualified, trustworthy subcontractors.
- Developing a successful site management and supervisory program also facilitates efficient sector planning and scheduling.

For owners
- Application of a reasonable period of a sector implementation contract for the contractor.
- Provide a sufficient time during feasibility study and provide with better financial plan.
- To obtain the appropriate sector approvals from the relevant authorities and to ensure that the requisite funding is available.
- Choosing a sector manager who has ample work experience and a good reputation.
- To ensure the tender documents are complete, consistent and error-free

For consultants
- Development, by the user, of a control system for managing, monitoring and reviewing variation orders.
- Avoid detains to respond the requests of the client, as well as approving submissions and drawings submitted.
- Proper with all the guidelines about the sector to the client.
- Avoid conflicts and misunderstanding between workers.

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