Question from 5W’s and 1H Framework

Stakeholders

Diggers:

Digger to Crusher trucks:

Crushers:

Crushers to Diggers trucks:

Logistic Manager:

Customer:

What??

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Diggers:

* + What is the configuration of digger?
  + What is the capacity of digger?
  + What is the number of diggers?
  + What is the manforce need to operate diggers?
  + What is operational ability of diggers?
  + What are kind of ore they are digging?
  + What amount of fuel would need by digger?
  + What is time taken to fill a empty truck at digger ?

Digger to Crusher trucks:

* + What is the capacity of digger to crusher truck?
  + What is the cycle of operation for digger to crusher truck?
  + What is the transportations cost?
  + What is the maximum speed at which it can travel?
  + What is route /environmental condition?
  + What is distance between digger and crushers?
  + What amount of fuel would need by trucks?
  + What are mitigation plan for disasters or delay?

Crushers:

* What is the composition crushers can crush ore into?
* What is the capacity/time/manpower/types of crushers?
* What is the operation process?
* What is maintaince/operational cost and time for crushers?
* What precaution and additional requirement?
* What is the mitigation plan for unplanned breakdown?
* What is the experience of crew handling them?

Crushers to Diggers trucks:

* + What is the cycle of operation for digger to crusher truck?
  + What is the maximum speed at which it can travel?
  + What is route /environmental condition?
  + What is distance between crushes and digger?
  + What amount of fuel would need by trucks?
  + What are mitigation plan for disasters or delay?

Logistic Manager:

* What is the qualification/scheduling ability/experience of logistic managers?
* What are standard working power?
* What are performance indicators for logistic manager?
* What are his priorities and responsibility?

Customer:

* What is the requirement of customers?
* What is the expectation of quality/quantity of customer?
* What is budgets of customer?
* What is his understanding about product price in market?

Who??

Diggers:

* + Who will be responsible if digger doesn’t work?
  + Who is operating/maintenance?
  + Who decide on digging volume?

Digger to Crusher trucks:

* Who is looking loading process?
* Who is operating/maintaince/responsible?
* Who is overlooking availability of trucks?
* Who is deciding on truck routes?

Crushers:

* Who is responsible for crusher?
* Who is overlooking ore quality /composition/size?
* Who is responsible for monitoring queue at crusher?
* Who is responsible for monitoring delay/down time/operation in operation at site?
* Who is responsible incidents/accidents/safety?

Crushers to Diggers trucks:

* Who is looking unloading process?
* Who is operating/maintaince/responsible?
* Who is overlooking availability of trucks?
* Who is deciding/planning on truck routes?

Logistic Manager:

* Who is logistic manager?
* Who is overlooking productivity/delivery/quality/efficieny?
* Who is keeping track of past performance?
* Who negotiate rates with customers?
* Who are my customers?

Customer:

* Who is contact person for delivery/delays/costs ?
* Who will address queries and question of customers?
* Who are my competitors?

How’s

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Diggers:

* How much ores are the diggers digging in a given duration (day/ hour)?
* How much fuel is required?
* How many people required to operate diggers?
* How many diggers are there?
* How to reduce the queue at site?
* How much does it take fill a truck?

Digger to Crusher trucks:

* How much time does it take to travel from digger to crusher?
* How much fuel does it consume?
* How many trucks are there?
* How many are moving from a particular digger location to a crushers?
* How many reserved trucks?

Crushers:

* How much ores are the crushers crushing in a given duration (day/ hour)?
* How much fuel is required?
* How many people required to operate crusher?
* How many crusher are there?
* How to reduce the queue at site?
* How much does it take fill a truck?

Crushers to Diggers trucks:

* How much time does it take to travel from digger to crusher?
* How much fuel does it consume?
* How many trucks are there?
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Logistic Manager:

* How to manage the operation/crew/people/customer ? [Manually, software, ERP tools]
* How he is handling emergency situation?
* How he is planning or delivering the ores to customers?

Customer:

* How is he checking on quality/quantity ?
* How many competitiors are there?
* How many ore providers are there?

What

Who

When

Where

Why

HowWhen

Diggers:

* When the digging operation start/end ?
* When is the delay happening at diggers?
* When do they require periodical maintaince?

Digger to Crusher trucks:

* When is the delay happening in the movement?

Crushers:

* When the crushing operation start/end ?
* When is the delay happening at crusher?
* When do they require periodical maintaince?

Crushers to Diggers trucks:

* When is the delay happening in the movement?

Logistic Manager:

* When he will supply the product or make delivers?
* When demands are high?

Customer:

* When he will receive?

**Markov Queue theory**

Where

Diggers:

* Where are the diggers are located/geographical co-ordinates?

Digger to Crusher trucks:

* Where is the truck located in the current cycle?

Crushers:

* Where are the crusher are located/geographical co-ordinates?

Crushers to Diggers trucks:

* Where is the truck located in the current cycle?

Logistic Manager:

* Where is delay happening?
* Where is shipping final products /ore to?
* Where demands are high?

Customer:

* Where the are going the product?
* Where do we have ore deposits/ location of such open-pit mines?
* Where he could get the quality verified?

Why

Diggers:

* Why diggers are digger?
* Why they are waiting/ stopped/ breakdown ?

Digger to Crusher trucks:

* Why there is delay in loading?

Crushers:

* Why crusher are crushing?
* Why they are waiting/ stopped/ breakdown ?

Crushers to Diggers trucks:

* Why there is delay in unloading?

Logistic Manager:

* Why there is a productivity gap/issues/challenges?

Customer:

* Why I am getting what I order for /quality/quanity?
* Why the quality is not as per our standard ?