

# Adaption Agile Project Management Methodology in Alteration and Addition Work: Study Case 105 Years Hotel Doulos Phos

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**Keywords:** Complexity, 105 Years, Ship, Ship Hotel, S Curve

**Abstract:** One of aspects plays key important to deliver successful of projects is Project Management. More than 75% project failed due to the complexity in of the project which are determines how the work should be done and what the best methodology to implemented. Science and Engineering has been changes from industry 1.0 when the discovery of the steam engine to industry 4.0 as marked as an artificial intelligent engine. Construction of Hotel Ships that have been more than 105 years old (sailing over the world), required combination project management methodology to create shipbuilding into an onshore hotel with additional rooms and other supporting facilities such as reclamation land, swimming pools, massage rooms, Carpark. Located in Bintan - Lagoi, the application of agile methodology into project implementation becomes important to break the deadlock in work methods that result in deviations in the S-Curve. Daily monitoring into work sub-items with analysis per hotel room becomes an important milestone to raise the actual S-curve close to the S-curve plan.

## 1 INTRODUCTION

### 1.1 Background

PT CSK Insulation Engineering, as integrated EPC contractor, specializes services provision of mechanical & electrical installation, including insulation and architectural, and construction for commercial building awarded HVAC, Fire Protection System, and Plumbing A&A Doulos Phos Hotel. MV Doulos is a retired cruise ship, the ship has previously been known as the SS Medina ordered 1913 and launched 1914 (two years after legendary Titanic ship was sinking in the North Atlantic Ocean). As-built weight around 5,426 Gross register tonnage and conversion into hotel weight raise to 6,818 Gross tonnage.

Holding the Guinness World Records as The “World’s Oldest Active Ocean Going Passenger Ship”, in 2009 end of cruising service and become scrap ship at dry dock Singapore. Until 2010, MV Doulos had new owner Mr. Eric Shaw director and chief executive of BizNaz Resources International Pte Ltd in Singapore. She renamed as Doulos Phos means Servant of Light and converting to a luxury hotel. In 2015, with the budget around USD \$25 Million,

construction of hotel resort started in reclamation land around 2,16 acre and consist of 104 rooms, swimming pools, Jet Spa, Beach Club, Massage cabin, Amphitheatre, Piano Lounge, and Restaurant.

Project start in august 2017 and planned to be finished in December 2018. Consist of two area which are External area and Internal Area. Sequence of works from external area (exterior phase) and in parallel certain part of internal area (majority at 1st floor and Corridor area) , last part is room area including finishing works called as interior phase. In first 6 month progress running as per plan (S – Curve), each progress controlled using weekly plan, and second 6 month progress running more slowly and create gap at S- Curve.

The complexity occurred at Alteration and Addition works of Doulos Phos hotel project when progress reach interior phase. Each room was unique, there are no similar rooms within 104 rooms, decoration, bed location, furniture arrangement, and even utilities at toilet . Because the interior rooms perception of owner, consultant and contractor is not in same line, makes progress even worse.

Projects stop almost more than 3-month, cause delay, standby workers and increase stress constraint. As Project manager, reverse project management methodology needs to enforce. One of project

management methodology called Agile management means adaptive and developing solutions through the collaborative effort.

## 1.2 Methodology

Project management institute introduces PM BOK (project management body of knowledge) covered 5 processes, 10 knowledge area and 47 ITTO (Inputs, Tools and Techniques, Outputs). Project schedule controlled by S-Curve, which contains the percentage each sub-items. Percentage of sub-items calculated from the value of cost divide by overall cost. Each works constructed by sequence and distributed as Waterfall diagram. Using Empirical process (finish to start concept), Time Cost and Quality described as Triangle Line.

Agile management comes with defined process with the stages consist of Envision, Speculate, Explore, adapt and Close. Envision consist of Project chapter, Team collaboration tools and Team Norms. This is the foundation of agility. Triangle proses Speculate, Explore and adapt are routine activities described as a sprint. Retrospectives will be the end of agility stage, this is called as Close stage

## 1.3 Problems

There are two main issues as described below:

- a) Converting process from water fall to agile
- b) Agile adaptation into ongoing projects

## 2 ANALYSIS

### 2.1 Type of Research

This study uses qualitative and quantitative research. Qualitative data aim to understanding behavior of workers and the reason that govern such behavior. Quantitative data examine to statistical analysis of S-curve progress.

### 2.2 Data-Data Collected

- a. Duration: 2017 until 2019
- b. Budget: Rp. 13.583.899.550,00
- c. Manpower:
  - Indirect Cost: 1 Nos
  - Direct cost: 15 workers
  - Batam Team: 6 workers
  - Tj Uban Team: 9 workers
- d. Scope of Works:

- e. Plumbing works
- f. Sprinkler System
- g. Exhaust System
- h. AC VRV System
- i. Supply Chain
- j. Consumables
  - Tj Uban Shop
  - Batam Shop
  - Main Materials
  - Batam Shop
  - Singapore Shop
- k. Project Management
- l. Water-Fall Methodology
- m. Period: August 2017 - August 2018
- n. Item of Works:
  - 60% of Plumbing works
  - 60 % of Sprinkler system
  - 70% of AC VRV system
  - 100% of Plumbing works at external area
  - 100% of Plumbing works at spa toilet
  - 100% of Plumbing works at Satay Club toilet
  - 100% of Plumbing works for Rainwater Pipe + Pantry club
  - 100% of Material Underground Hydrant Pipe (BS SCH 40)
  - 100% of Plumbing Works at SPA Cabana
  - 0 % of Supply and Install AC di B Deck
  - 40% of Plumbing works at Semi Dining Kitchen
  - 100% of Exhaust + FAD Di kitchen
  - 100% of AC at Boat Deck
  - 100% of Water chamber
  - 100% of Pump House
- o. Agile Methodology
- p. Period: December 2018 - Mei 2019
- q. Item of Works:
- r. 40% of Plumbing works
  - 40 % of Sprinkler system
  - 30% of AC VRV system
  - 0% of Plumbing works at external area
  - 0% of Plumbing works at spa toilet
  - 0% of Plumbing works at Satay Club toilet
  - 0% of Plumbing works for Rainwater Pipe + Pantry club
  - 0% of Material Underground Hydrant Pipe (BS SCH 40)
  - 0% of Plumbing Works at SPA Cabana
  - 100 % of Supply and Install AC di B Deck

- 60% of Plumbing works at Semi Dining Kitchen
- 0% of Exhaust + FAD Di kitchen
- 0% of AC at Boat Deck
- 0% of Water chamber
- 0% of Pump House

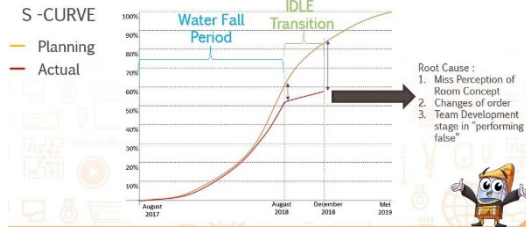


Figure 1.

### 3 CONCLUSIONS

An idle time occurred due to lack of coordination and complexity in each room, the progress of works going slow within 4-month cause manpower cost and gap of S-Curve plan and actual wider. Agile methodology creates a unique spring for each event, which is each event consist of multiple teams. The converting from waterfall to agility need commitment all stakeholder and 4 basic monitoring control should adopt it daily basis. As Project Manager identify the problems, find the ways to solve it, change it the ways to do so and even create a reverse methodology to meet the triangle of project goals

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