IMPROVING CONSTRUCTION MANAGEMENT PRACTICE IN THE GIBRALTAR CONSTRUCTION INDUSTRY

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Presentation Structure:

- Issues the construction industry is facing
- Background of Gibraltar and Rationale for the study
- Research Question
- Research Methodology
- Research Findings
- Conclusion
Issues the construction industry is facing

- 57% of activities on a construction project is non-value adding (waste) Diekmann et al. (2004).

- Productivity is growing at 1% every year and the efficiency of workers is about 40% (Prabhu & Ambika, 2013).

- Common causes of low productivity include, design errors, communication problems and inexperience of project team members (Dai et al., 2007; Naoum, 2016).

- Lean techniques used to minimise waste around the world.

The prospect of this for the Gibraltar construction industry is yet unknown.
Background of Gibraltar

Gibraltar is a British overseas territory, located on the southern tip of the Iberian peninsula and is recognised worldwide for its 42m high limestone rock.

- Total Population is 34,571
- 300 years of Britain sovereignty
Gibraltar Construction Industry

However, the Last Planner System (LPS) a technique within lean construction has been identified to support a smooth workflow through the development of collaborative relationship among project stakeholders.

- Both physical and process waste are present in the Gibraltar construction industry.
- Over 10,000 Spanish workers travel to Gibraltar on a day to day basis due to the lack of employment in Spain, which has promoted cheap labour.
- The Gibraltar construction industry continues to flourish having a major impact on Gibraltar’s skyline.
RQ1: What are the factors that contribute to non-value adding activities (waste) in the Gibraltar construction industry?

RQ2: How can the incidence of non-value adding activities be minimised on site in Gibraltar?

RQ3: What are the prospect of minimising the wasteful processes in the Gibraltar's construction industry via the Last Planner System?
Research Methodology

Observation made on the Lack of productivity in Gibraltar

- Literature review
  - Interviews
  - Questionnaire Surveys

Evidence Obtained

Data analysed

Findings & Discussions

Questionnaire = A total of 31 Research Participants

Interviews = A total of 7 Interviewees
Factors that contribute to Non-Value adding activities (Waste) within Gibraltar’s construction industry

<table>
<thead>
<tr>
<th>Contributing Factors to NVA</th>
<th>Ranking</th>
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<tbody>
<tr>
<td>‘Unrealistic schedule’</td>
<td>1</td>
</tr>
<tr>
<td>‘Lack of training’</td>
<td>2</td>
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<tr>
<td>‘Delayed approval process’</td>
<td>3</td>
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<tr>
<td>‘Work interruption due to community’</td>
<td>4</td>
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<tr>
<td>‘Poor site layout’</td>
<td>5</td>
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<td>‘Miscommunication between the workforce’</td>
<td>6</td>
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<td>‘Disagreements between contractors subcontractors and client’</td>
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<td>‘Lack of resources’</td>
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<td>‘Lack of team work’</td>
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<tr>
<td>‘Delay payment’</td>
<td>10</td>
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<tr>
<td>‘Lack of flow in construction’</td>
<td>11</td>
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Interview Results: Minimising Non-value Adding Activities on site in Gibraltar

- Regular Meetings
- Adequate Training
- More emphasis on Pre-Planning
- Implementation of a Legal framework
- Communication between Parties
- Effective Communication and Coordination on projects
Identification of constraints before commencement of task

Holding of weekly coordination meetings

Weekly review meetings to identify if planned tasks have been completed

Weekly sub-contractor meetings

Involvement of non-management personal in decisions

Accepting suggestions from the sub-contractor

Accepting suggestions from the sub-contractor

Making a back-up plan for tasks which have not been completed

Communicating key project performance to sub-contractors

Having six week look ahead planning

Weekly sub-contractor meetings

Involvement of non-management personal in decisions

Accepting suggestions from the sub-contractor

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Weekly review meetings to identify if planned tasks have been completed

Holding of weekly coordination meetings

Identification of constraints before commencement of task

Display of project performance indicators utilising charts/boards
Conclusion

- Topmost factors that contribute to NVA’s in the Gibraltar construction industry include the development of unrealistic schedules, lack of adequate training, delayed approval process and work interruption due to the community.

- The study revealed practices within the Gibraltar construction industry that mirror the Last Planner System thinking, though rooted in traditional approach to project management could be a starting point for LPS.

- The suggestions offered by construction professionals in the Gibraltar for minimising such, like better communication with the stakeholders and effective coordination on projects align with some LPS principles.

- The study concludes that there are potentials for the LPS in Gibraltar, but also cautioned that all future implementers of LPS in Gibraltar must manage the external stakeholders- the community effectively.
Thank you for your attention

Any questions?
References


