

A CASE-BASED STUDY OF LEAN CULTURE AMONG SOUTH AFRICAN CONTRACTORS

Fidelis Emuze and Willem Mpembe

AGENDA

- Introduction
- Elements of culture
- Research Method
- Results
- Conclusion

INTRODUCTION

- Problems such as low productivity, poor health and safety, waste and insufficient quality, and poor performance are experienced in the South African.
- lean construction (LC) concepts, tools and techniques could be used to resolve such problems that exist in South African construction.
- The study reported in this paper was undertaken to investigate how contractors could help to drive the implementation of lean construction in South Africa.

ELEMENTS OF LEAN CULTURE

- Leadership, communication, empowerment and teamwork are elements of lean culture that are essential to improvement (Rubrich 2012).
- These four elements will help contractors to develop guiding principles or behavioral expectations.
- They help to communicate change.

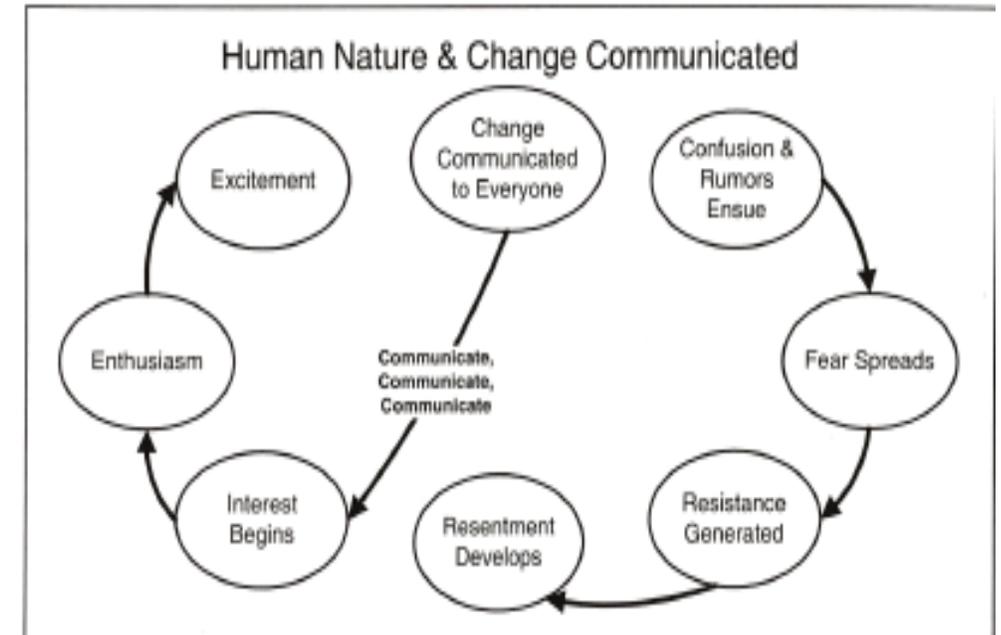


Figure 1. Change communication

RESEARH DATA

Case	Construction Team	Consulting Team	No.
Case Project 1: (Retail Organisation)	1 Site manager 3 Foremen 1 Jnr Foreman 1 Artisan (steel)	2 Project managers	9
Case Project 2: (Parking Garage)	1 Project manager 1 Director 1 Contract manager 1 Jnr Site agent 1 Project administrator 2 Jnr Quantity surveyors	1 Contract manager 1 Technician	8
Case Project 3: (Refurbishment)	1 Contract manager 1 Jnr Contract manager 1 Quantity surveyor 2 Jnr Quantity surveyor 1 Site engineer	1 Principal technician 1 Project manager	8
Total Interviewees			25

Table 1. Demographic Information

RESULTS – 1

Questions	Interviewees' Responses		
	Yes	No	Unsure
Lean construction is continuous process of eliminating waste and meeting all customer requirements, and pursuing perfection on a project.	6+9+8 (23)	2	0
Awareness of the impact of lean construction in South Africa.	6+9+6 (21)	1+2 (3)	1
As a contractor, do you think lean construction can be implemented in South Africa?	4+7+7 (18)	2+2 (4)	2+1 (3)

Table 1. Perceptions of lean construction principles

RESULTS – 2

Aspect	Strongly Disagree	Disagree	Agree	Strongly Agree
There is resistance to change to LC in South Africa	0	2+1+1 (4)	5+6+5 (16)	1+2+2 (5)
Lack of LC knowledge is the reason why South African construction is taking time to develop the system.	0+1 (1)	1+1+1 (3)	4+3+5 (12)	3+5+1 (9)
Leadership plays a significant role in organisations transforming to LC.	0	1+1 (2)	4+4+4 (16)	3+4+2 (9)
Adopting a new system such as LC can help reduce problems in South African construction.	0+1+1 (2)	0+0+0	3+3+6 (12)	5+5+1 (11)
There is a need to increase LC awareness in South African construction.	0+0+0	0+1+1 (2)	1+4+2 (7)	6+5+5 (16)

Table 1. Perceptions of contractors' attitude towards lean construction

RESULTS – 3

Case	Interview Responses
Case Project 1	<ul style="list-style-type: none"> • No, they are not and the unwillingness to change will derail the success the firms envisage to achieve but they recognise change is inevitable. • Yes, they can change and some are willing because of the economy that is against their company, lack of projects, being feared of company being liquidated. • If the benefits of lean construction were to be made clear to all, I believe they or other contractors will change.
Case Project 2	<ul style="list-style-type: none"> • No, they are fearful to adopt new changes. • No, they just need to be exposed to better working conditions such as lean and they will see the benefits. • Yes, they are somehow set in their ways; most contractors neglect quality of work they deliver.
Case Project 3	<ul style="list-style-type: none"> • Yes, many are set but corruption plays a big role on projects. • Yes, more information on lean and awareness will educate them more about lean. • Yes, even though people are resisting change but, with right systems in place, people will adjust. • No, South African contractors' main focus on project is making money instead of delivering to meet customer satisfaction.

Table 1. Responses related to change in organisational culture

RESULTS – 4

Case	Interview Responses
Case Project 1	<ul style="list-style-type: none"> • Yes, diversity and commitment to apply lean concept should be key. • Yes, in terms of tendering such as charging high from doing projects, but as for running the projects things are done smoothly. • No, the leadership is fine.
Case Project 2	<ul style="list-style-type: none"> • Yes, fresh ideas bring new thinking. • Yes, the current leadership approach has to be utilised and judging the challenges currently facing management it is quite clear that a different option or choice can be tried. • Yes, there is always better way or different leadership approach to better what is currently done. • No, we have great management team.

Table 1. Responses related to organisational culture and leadership style

RESULTS – 5

Case	Interview Responses
Case Project 1	<ul style="list-style-type: none"> • Yes, can improve productivity and also save money. • It can improve some sort of way maybe on financial side; company can get more money out of it.
Case Project 2	<ul style="list-style-type: none"> • Yes, we will finish project within the client budget. • Yes, provided that what lean entails, how it should be implemented and continue to use it. • Yes, it encourages sustainable construction and sustainable construction as a key dimension of sustainable development, making construction saving a lot of cost on material and procedures. • Yes, it is better for construction and the future development policies of organisations. • Yes, lean with the aim of decreasing time, waste of material and increase in production need to involve all parties in the project from design team to planning.

Table 1. Responses to organisational culture and viability of LC

RESULTS – 6

Case
Project 3

- Yes, lean is a sustainable thing.
 - Yes, lean provides essential features such as clear set of objectives for delivering projects.
 - Yes, company can see ways to mitigate delays and cost overruns; also removal of waste.
 - Yes, lean will ensure better management skills which will improve overall work environment in terms of material handling, staff participation and productivity.
 - Yes, workers will be exposed to training and would be better at what they are doing on site.
 - Yes, lean thinking will minimise waste and encourage efficiency.
-

Table 1. Responses to organisational culture and viability of LC

CONCLUSIONS – 1

The question of how contractors could help drive the implementation of LC in South Africa was examined in the qualitative study reported in this paper.

The findings of the study revealed that, although awareness of LC existed, contractors were resisting implementation.

Some contractors believed that change was necessary and that LC promised great potential, while other differ

CONCLUSIONS – 2

It was apparent that LC culture was lacking among contractors in the region. The need to use LC to create a common language and culture in contracting firms exist

The interviewed contractors can learn from DPR Construction. The firm is an LC leader that attributed its success to its people and culture.

A step in the right direction to remedy the situation would be to use leadership, communication, empowerment and teamwork (four elements) to effect change of culture.

THANK YOU!

Contact Details