



THE IMPACT OF LEAN THINKING ON ORGANIZATIONAL LEARNING

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ABSTRACT

Purpose: The purpose of this paper is to investigate the effect of the lean concept on organizational learning in the real estate industry. The objectives are to determine the impact of the lean concept on knowledge and leadership and evaluate the challenges affecting the implementation of lean and provide recommendations to remedy the situation.

Design/Methodology/Approach: The study employed a quantitative method. Questionnaires were used to measure the variables. A five-point Likert scale was used for both lean thinking to measure the various perspectives and dimensions. The questionnaires were administered to 200 respondents drawn from the real estate industry in Ghana using a simple random sampling technique. The data collected was then summarized through relevant thematic areas and analyzed statistically through descriptive statistics, correlations and multiple regression to establish the nexus between lean concept and organizational learning with help of SPSS version 22.

Findings: The finding of the study established that lean thinking affects organizational learning except for experience sharing. The findings also revealed that the lean concept has a positive effect on development, leadership and organizational culture.

Research Limitations: The study focused on the effects of lean thinking on organizational learning in the real estate industry in Ghana. Hence the questionnaires were administered mainly to 200 companies in the real estate industry in Ghana.

Practical Implication: The knowledge advanced in this study will help managers of real estate companies as a matter of necessity embrace lean thinking if they are to meet customer-focused requirements, remain profitable and shorten the duration of construction projects, waste elimination and cost reduction.

Originality/Value: This paper is focused on the effects of lean principles on organizational learning in the real estate industry with a positive impact on organizational development, leadership and organizational culture.

Keywords: *Elimination. lean thinking. organizational learning. lean tools. waste.*

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INTRODUCTION

The concept of lean thinking is an approach that seeks to maximize production through a continuous learning process and value-creation tools and techniques to boost productivity whilst minimizing losses (Goh & Goh, 2019). As a result, it has a profound impact on organizational learning. The ongoing debate on the acquisition of knowledge and skills by employees is borne out of the fact that these practical skills and knowledge offer innumerable advantages such as information sharing (Zahra, Thamboo & Asad, 2021). This implies that in any organization it's a key process to achieve organizational goals. It is in this light that lean thinking becomes extremely important in that it creates value, reduces waste and augments productivity (Afum, Li, Han, & Sun, 2022). Lean thinking adds value to activities at the operational level for the greatest impact thereby creating the avenue for making the possible best with fewer resources (Mohammadi, Igwe, Amador-Jimenez & Nasiri, 2022).

Organizations could adopt lean thinking to enhance product quality and meet customers' specifications and requirements. In terms of timely delivery of products, and improvement in staff safety conditions, lean thinking offers a bundle of tools and techniques to streamline the operations of companies. The values, totems and basic principles underlying corporate philosophy will be influenced by organizational learning. Continuous learning of members is a major requirement of lean adoption and implementation so that members within an organization will appreciate why the culture and values must be accepted. Fundamentally, one of the key requirements for recognizing lean in an organization relates to how to help staff and management to understand the core lean concepts and how to apply them. This could affect the behavioural pattern of members in the organization. One of the key questions is how to direct and shape learning to bring about sustainable knowledge and skills and help the workers in the organization. It involves the process and procedure mechanisms used by organizations to share information or adopt learning.

Organizational learning can be obtained through benchmarking, practice and value system forms of problem-solving skills. Lean thinking focuses more on productivity and value-adding activities, organizational learning deals with the overall systematic learning experience within an organization (Afum et al., 2022).

This research views lean thinking from the perspective of boosting productivity in real estate construction activities at the operational level rather than the strategic level where most of the planning occurs.

The purpose of this paper is to investigate the effect of the lean concept on organizational learning in the real estate industry. The objectives are to determine the impact of the lean concept on knowledge and leadership and evaluate the challenges affecting the implementation of lean and provide recommendations to remedy the situation.

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THEORIES UNDERPINNING THE STUDY

Predicting the future performance of organizations is very difficult. However, learner-centred organizations are somehow able to predict and take long-term decisions because they are empowered (Sharifi, Azizifar, Jamalinesari, & Gowhary, 2015). The theoretical foundation of the study is the organizational theory that explains how lean thinking is related to organizational learning.

The Organization Learning Theory

The theory of organizational learning explains the process of developing, retaining and transferring knowledge within an organization. The theory indicates that organizational learning makes it possible for management to accumulate knowledge through experience and information sharing which ultimately influences organizational performance. According to Weinzimmer and Esken (2017), the underlying concept in organizational learning theory is the idea that we learn by mistakes and that through continuous learning we tend to detect errors and correct our mistakes. Additionally, organizational theory depends on two principles. One principle is that there are always formal rules, policies and procedures that guide members of the organization at all times. These represent the organization's espoused theory, which is their values and assumptions on how things are thought to be done. The second principle talks about the way and manner things are done within the organization and how problems are solved. This is called theory in use. It is the interaction of these principles and behaviours that organizations govern their members and ensures that it survives.

The Theory of Constraints

The theory of constraints utilizes the system's approach to lean implementation (de Jesus Pacheco, Pergher, Junior & Vaccaro, 2018). The theory identifies all the issues and constraints associated with manufacturing where it began from. The initial focus of the theory was an attempt to identify all the weak links in the lean implementation process by focusing on constraints in the short run to the long-term. According to Dibia, Dhakal and Onuh (2014) for a successful implementation of lean, there is the need for improvement in the constraints, there should be capacity building for effective implementation of lean, lead time should be improved, whilst inventory should be managed to reduce costs and wastage.

It is the presence of these constraints in construction activities that lean thinking is needed to streamline construction processes to minimize cost and boost productivity.

Empirical Literature

The empirical literature relates to organizational learning, leadership, culture, management, principles and methods. It is therefore important that organizations adapt swiftly to change; particularly that brought technology and must deploy all resources to modernize their operations to manage data and information (Whysall, Owtram & Brittain, 2019).

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There is a need for an organization to adopt lean thinking to satisfy and meet customer requirements. In this regard, it is essential to improve lean comprehensibility at the organisational level for customer needs to be met. Lean thinking is, therefore, a philosophy that seeks perfection and helps organizations to reduce wastage, and cost, improves efficiency and quality and by so doing adds value to customers (Modi & Thakkar, 2014).

Organizational culture affects leadership. This is particularly important in the context of lean. It is the senior management that decides to implement lean. Khalfan, Jamaluddin and Widyarto (2022) argued that leadership plays crucial in lean implementation. However, the adoption of a top-down strategy holds considerable promise for lean since it reduces employee resistance. Employees will have to be motivated to work for management to achieve results.

Any organization that can maintain and sustain its true values and identity positively will influence lean adoption. Implementing lean requires strong leadership and a dynamic cultural setting. Similarly, lean implementation requires employees' expertise, knowledge and skills for it to be successful. According to Abu Aisheh, Tayeh, Alaloul, and Almalki (2021), the key to effective lean is for employees to possess the requisite skills and competencies that would help them to appreciate the detailed processes involved.

According to Ismail (2020), there is a positive association between experience and lean thinking. Experience is accumulated through continuous learning. For most organizations, experience sharing is relevant whilst others consider it irrelevant.

METHODOLOGY

To investigate the impact of the lean concept on an organisation, the researcher employed a quantitative method. The questionnaires were administered to 200 respondents drawn from the real estate industry in Ghana using a simple random sampling technique. 176 questionnaires were returned for analysis. A five-point Likert scale was used for both lean thinking to measure the various perspectives and dimensions. The data collected was then summarized through relevant thematic areas and was then analyzed statistically through descriptive statistics, correlations and multiple regression to establish nexus between lean concept and organisation using SPSS version 22.

RESULTS AND DISCUSSION

Multiple Regression Analysis

From Table 1, the relationship between lean thinking and organizational learning has been presented. It was found that lean thinking and its related variables as demonstrated in the analysis below have positively impacted real estate companies in Ghana with a score of Multiple R=80, R=79.4%, R² =76.2%. The R is the coefficient of determination and it indicates the extent of the correlation between depreciation and profitability. In this case, a score of 76.2% indicates that the two variables are positively associated. The R² measures a refined level of association and takes

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into consideration the margin of errors and is the best measure of the results. This implies that anytime there is lean adoption it has an effect on organizational learning as presented in Table 1.

Table 1: Multiple Regression Model

Regression Statistics	
Multiple R	80
R Squared	79.4
Adjusted R Squared	76.2
Standard Error	0.02
Observations	176

Source: Field Survey, 2019

The nexus between the Lean concept and Organization

Table 2 shows the relationship between lean thinking and organizational learning. The results indicate that there is a strong positive correlation between lean thinking and organizational learning, except for experience whose correlation was 35%. Information sharing recorded the highest value of 72%, followed by Knowledge and development which also recorded 66%. Leadership and culture were recorded at 65% and 61% respectively.

Table 2: The Relationship between Lean Thinking and Organizational Learning

Dependent Variable	Independent Variables	Strength of Correlation
Organizational Learning	Leadership	0.65
	Culture	0.61
	Knowledge and Skills	0.66
	Experience	0.35
	Information Sharing	0.72

Source: Field Survey, 2019

DISCUSSION

The study has indicated that one of the key drivers of lean in organizations is information sharing. The extent to which organizations share information will affect the type of tools and techniques that will be adopted. This is justified by Kouhizadeh, Saberi and Sarkis (2021) that a careful understanding of learning and its principles and widespread acceptance will help induce the right lean thinking which will invigorate most environments to success in lean implementation. The fundamental concept of lean thinking focuses on adding value and reducing waste in construction operations. This implies that organizations at all times must seek to share available information with managers to make an informed decision. This study is consistent with Shou, Wang, Wu and Wang (2021), who indicated that a thin thread weaving through lean thinking and organizational

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learning is the extent to which information is shared so that all and sundry in the organization will be allowed to contribute to lean implementation.

CONCLUSION AND RECOMMENDATIONS

The study was conducted to shed light on the lean concept and organization. It is crystal clear that lean thinking has a positive influence on organizational learning. It can therefore be concluded that organizational learning can be enhanced through the adoption of lean concepts in an organization. The study has theoretical and practical implications. From the theoretical perspective, the organizational learning theory explains how companies can make continuous efforts to detect errors and correct them through constant practice. Learner-centred organizations have a lot to learn along the way and they will be the best implementers of lean. A well-managed organization is prepared for the future because it is aware of the happenings within its environment.

The study has implications for practice. Managers of real estate companies must a matter of necessity embrace lean thinking if they are to meet customer-focused requirements and remain profitable. To shorten the duration of construction projects, waste elimination and cost reduction must be pursued.

Recommendations

1. It is recommended that real estate companies should foster continuous learning within their companies to facilitate lean adoption.
2. Real estate companies that would like to adopt lean in their operations must start with process mapping to know which lean tools and techniques are desirable for their specific circumstance.
3. Lean thinking involves the process of continuous learning. This implies that organizations will adopt a learning continuum to reduce waste in the construction processes.
4. For customers to derive value, organizations should consult with the customers in the design of their lean processes to get goods and services that are tailored to their tastes.

Future Research

The paper focused on the relationship between lean thinking and organizational learning. Whilst various aspects of lean thinking and organizational learning were discussed, various dimensions of organizational learning such as organizational memory were not touched on. Future research should examine the link between lean thinking and organizational information storage and retrieval processes and how that impact lean adoption.

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