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Continuous Improvement in Service Industry Using Process and Operational Excellence Methodologies

Milind Tayade*, Satish Ubale** and Deepali Satish Ubale***

Continuous improvement includes calibrating each existing operation to reduce waste, enhance quality, and maximize individual development. It is a continuous effort to ensure that all operation functions are efficient. The goal of the study is to give instances of effective continuous improvement initiatives in order to establish whether the approach is satisfying the goals and solving the challenges encountered by the service industry. The study also aims to define an acceptable plan for organizations to improve their activities and operations via continuous improvement, as well as find relevant tools and approaches that can help them succeed. To achieve the goal, the study examined a real estate consulting business and attempted to enhance the firm's organizational efficiency using continuous improvement methodologies. The findings of the study will add to the advancement of tools and approaches for executing Lean Six Sigma methodologies and notions in mixed contexts in the service industry.

Introduction

Operational excellence is a state in which every worker recognizes the flow of value to the consumer and corrects it when it stops or deteriorates. In a well-run company, everyone understands their role in the delivery of value to the consumer. Employees can tell if the flow is regular or irregular, and they can re-establish it without the help of management. Leaders of operationally great organizations may move their attention from monitoring day-to-day operations to continual innovation and related efforts to boost recurring income since each employee is proactive in their jobs (Found et al. 2018).

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Operational excellence and continual improvement are not equivalent but totally dissimilar. To be effective, firms must use a combination of both strategies. Continuous improvement entails fine-tuning the current operation to decrease waste, increase quality, and unlock human potential. It is a never-ending endeavor to ensure that all processes run at maximum effectiveness (Pyon *et al.*, 2011). Continuous improvement ensures more effective processes, but if executives are always correcting and upgrading the same processes, they will be unable to adapt and concentrate on other revenue-generating operations. If clients no longer desire their products, there is no certainty that the modifications will result in progress or save the firm. Operational excellence comes into play here. An organization must attain operational excellence in order to expand and innovate while continually advancing. Everyone in a company understands their contributions to regular flow, can recognize irregular flow, and can apply the conventional approach for rectifying operations when they go awry, without management involvement (Awwal, 2014). Operational excellence eliminates the requirement for management engagement in day-to-day tasks, allowing management and leadership to focus on operations that drive top-line development.

Literature Review

The current study will concentrate on lean process improvement strategies in order to help service industries attain process as well as operational excellence. A range of ways is accessible to help businesses with continuous improvement. Each seeks to facilitate firms in distinguishing and resolving workflow challenges, as well as in examining the effectiveness or ineffectiveness of such developments. Considering the mutual aim, each approach is personalized to a specialized necessity. Six Sigma is a comparable workflow enhancement structure that encourages staff through karate belt grades (Thomas *et al.*, 2009). Green belts start and work their way up to black belts. Six Sigma uses two methodologies to divide process improvement into distinct phases: DMAIC (Define, Measure, Analyze, Improve, and Control) and DMADV (Define, Measure, Analyze, Design, and Verify).

'5S' refers to five essential phases in the Kaizen and Lean approaches. 5S stands for sort, straighten, shine, standardize, and sustain. The 5S approach may standardize continuous improvement by bringing more uniformity to process and operational improvements.

The Shingo Guiding Concepts, or operational excellence guiding concepts, are the foundation for every company's long-term operational excellence strategy. The 10 concepts serve as a basis for anybody seeking market supremacy via operational excellence (Shingo and Dillon, 2019). Each concept is classified as one of the three types: (i) Cultural facilitators; (ii) Continuous enhancement; and (iii) Organization orientation. Process improvement is the technique of finding, examining, and supplementing current organizational workflow in order to increase efficiency, achieve

best practice standards, or generally increase quality as well as user experience for consumers (Hyotylainen, 2015). Business Process Management (BPM), Business Process Improvement (BPI), business process re-engineering, and ongoing improvement process are some of the terms Hyotylainen used in his study to describe Continuous Improvement Process (CIP). They all have the same objective: to decrease mistakes, waste, increase production, and optimize performance.

Continuous improvement techniques such as Lean and Six Sigma provide businesses with tried-and-true tools and procedures for solving issues in a systematic and efficient manner (Antony, 2011). Corporate Process Management examines how coordinating people, processes, and technologies, as well as automating important operations, may improve business effectiveness.

The reach of continuous improvement approaches has increased as a result of substantial technology discoveries, contemporary inventions, and rapidly changing market demands. Organizations began using the Six-Sigma methodology as a continuous improvement strategy in the late 1970s, and it is today recognized as the most dominant and productive utility in the Lean tool approach. It aids businesses in consistently improving their efficiency (Beeken, 2009). It also helps with delays, delivery schedules, wastage, and defects. Employees' safety, enhanced inventory management, increased output, a cleaner workspace, and many other advantages have been recognized as a result of good space management.

There are also certain limitations to implementing continuous improvement at workplaces (Bhuiyan and Baghel, 2005). Numerous limitations were observed during this study, such as (i) In addition to the expenses of training to accomplish the core job, employee training to function in a continuous improvement culture demands time and money; (ii) We used the continuous improvement strategy in areas and departments that had the largest impact on the organization's efficiency due to a lack of resources, like employees and staff allocated to projects by company management.

Research Gap

In terms of investigation, continuous improvement methods and approaches have been extensively and efficiently used in a broad number of improvement programs and domains. The literature has proved and strongly debated the utility of continuous improvement approaches, but there are not many studies in the literature that look at the role of continuous improvement in the service industry; this study seeks to fill that gap.

Research Questions

- What is the significance of continuous improvement in the service industry?
- Which strategy would be the best to employ for continuous improvement in the service industry?

- How Lean Six Sigma tools could be used to enhance the process and operational excellence in the service industry?

While working on a major issue, it is critical to search all possible reasons before choosing a solution. We were able to successfully solve the issue initially, instead of merely resolving a fraction of it and leaving the problem to recur. Continuous improvement methods and techniques can aid in selecting a feasible strategy.

Objective

The purpose of this study is

- To check instances of successful continuous improvement implementation in order to establish if the approach is fulfilling the demands of the service sector and solving the challenges that it faces.
- To define a suitable strategy for organizations to enhance their operations and processes through continuous improvement.
- To identify appropriate tools and techniques that could contribute to successful continuous improvement.

Data and Methodology

In order to achieve the objectives mentioned above, we evaluated a company named The Urban Spaces, based in Pune, India, which has been active since 2019. We attempted to adopt continuous improvement techniques to enhance the firm's organizational efficiency. In this context, we used a structure that consisted of five basic steps: (i) Case selection: a Pune-based company has been chosen for the continuous improvement project in this stage; (ii) Company current situation analysis: In this stage, we examined the company's key issues in order to recognize the difficulties and problems it confronts. In addition, the relevant data was collected through various process evaluations, and the documents investigated; (iii) Implementation of CI tools: In this stage, we put the CI tools into action using their concepts and methods; (iv) Analysis of improvement outcomes: In this stage, we contrasted the prior situation, as assessed in Step 2, to the results produced after adopting the CI strategies; (v) Suggestions for the company: Lastly, some suggestions were made to the company's administrators.

We focused on establishing a system that would help in the reduction of project closure delays by providing a reliable foundation for operational processes with minimal errors. A problem-solving process was initiated in order to discover a solution that would help the organization reduce project closing delays. Material authorizing variability data from the Enterprise Resource Planning (ERP) system was used to quantitatively measure against this operational excellence framework's verification. A vendor survey was also used to get qualitative input from outside sources on topics on which the organization should concentrate its continuous improvement efforts.

1. How is the support of Urban Spaces in dealing with the vendor issues? (Good/Bad/Average)
2. Key issues from Urban Spaces?
3. Mode of handling the queries? (Digital connect/Manual connect)
4. What kind of services are provided?
5. Key suggestions, if any, for the betterment of Urban Spaces.

The brainstorming session relied on past project experiences to provide ideas for activities that would increase the departments' efficiency in action and continuous improvement initiatives. Similarly, the brainstorming process found key points that might be implemented across all business divisions to achieve maximum organizational performance from these efforts. The proposals were aimed at improving the organization's current productivity. It was decided to explore one of these continuous improvement initiatives further by conducting a pilot study to evaluate a process and operational excellence tool that may help improve the overall performance of the organization.

Analysis

In this part, the continuous improvement stages mentioned earlier for The Urban Spaces, a real estate consultation firm, are discussed. The stages are as follows:

Case Selection

The first stage was to select a company related to service industry. The Urban Spaces is a real estate consultation firm situated in Pune, India. The research shows that continuous improvement strategies have been effectively adopted in a variety of industries, including manufacturing and production. The reason for this is because in the industrial sector, a set of procedures remains continuous and process rethinking is not required. However, based on the literature, there are few examples of continuous improvement applications in firms that belong to the service industry. This is due to the fact that businesses, other than those in the manufacturing sector, must deal with a wide range of goods and client requirements that differ from one another. As a result, a company that is not in the manufacturing industry is chosen. Another important factor to consider while choosing a case firm is its accessibility. The Urban Spaces has been active in business since 2019 with a focus on quality.

Current Situation Analysis

Following the selection of the company, the next step was to identify several flaws inside the firm, the most prominent of which were an unstructured division, an improper organizational framework, and issues in the project estimate phase, all of which were

harming the company's efficiency. Quality tools were utilized to help us discover the problems in each area by finding sources, apprehending procedures, gathering and evaluating data, and then providing remedies. Most of the needed data was manually acquired via charts, documents and papers, while the remainder came from a survey that was used to gather qualitative data from sources on topics where the company's continuous improvement operations should be focused. The data was then evaluated and studied to determine the appropriate solutions to the problems mentioned. Studying the processes of every department in the organization is important. However, marketing, sales, and the project team department are crucial to the success of the project. This aided in comprehending the course of the project implementation process from inquiry to completion. As a result, the current state of the various departments of the firm was examined in order to identify the issues that the company confronts. Sales and marketing, as well as project team divisions, were among the departments inspected. Following extensive inspections, extra time was invested in observing the processes in every branch in order to determine the true reasons. Based on the monitoring technique of each division, the following concerns were discovered in each department:

- Workers were not given any training or motivation, leading to uninformed workers and, as a result, an increase in the number of flaws.
- There is no dedicated individual to input information, causing delays and errors in acquiring the accurate estimate for the clients, resulting in issues.
- Customer lead generation, active lead conversion, property requirement mismatch, location issues, budget issues, billing pendency from builder once deal is done, and on-field agent unavailability.

Continuous Improvement Tools Implementation

The optimum solutions were offered to the company's management committee after identifying the difficulties and issues (Table 1). We used continuous improvement approaches to tackle issues and enhance the project. 5S was the tool chosen for the improvement of project's implementation. List of possible tools were assessed according to the problems and project objectives, and the tools were picked as the initiative went through the project lifecycle predicated on their applicability and how the issue or job required to be handled for the stage of the project. It is well known that Lean Six Sigma comprises numerous techniques; however, utilizing team leader expertise and feedback from firm customers, the techniques were chosen for their aim and capacity to tackle the issue at hand.

Major focus was on issues that account for at least 80% of all occurrences. Thus, Table 1 data was used to check and address the most critical issues, and it was discovered that resolving 20% of the issues would resolve 80% of the problems.

Table 1: Types of Problems in the Company

S. No.	Types of Problems	Description	Occurrence Percentage
1.	Transportation	Property projects are not confined to a single site and must be carried out in collaboration with the customer in several locations.	14
2.	Communication	For active conversions, the lead created or possible consumer reach process is virtual-based, instead of physical.	5
3.	Motion	The location of projects and project agents varies greatly.	16
4.	Over-Processing	Several follow-ups for a single sale	18
5.	Over-Production	Multiple agents working on the same project, resulting in a competitive case for the whole team	10
6.	Waiting	The customers do not arrive on time for the scheduled time slot.	20
7.	Defects	Lead conversion failure with an active sale	17

Execution of 5S Technique

The 5S system is presented in Table 2 and Figure 1.

To identify the difficulties and problems of the firm, key issues were categorized as (i) customer lead generation; (ii) active lead conversion; (iii) property requirement mismatch; (iv) location issues; (v) budget issues; (vi) billing pendency from builder once deal done; and (vii) on-field agent unavailability. Topics where the company's continuous improvement operations were focused were marketing, training the agent and increasing higher lead conversion. The most crucial department for the success of the firm was determined to be marketing and operations. Both standardize and sustain the 5S stages and focus on most for the firm's continuous improvement methods. For execution, the firm was asked to conduct the following measures on a daily basis to improve on the types of problems. The suggestions for improving on the types of problems are mentioned below:

Table 2: 5S Stages Definition

5S Stages	Definition
Sort	Sorting requires distinguishing between needed goods such as equipment, tools, and gear and removing undesired objects such as broken toolkits, material waste, and worthless or occasionally used objects.
Straighten	It may be characterized as organizing the arrangement so that items are easier to find and accessible to everybody, as well as putting documents in suitable storage areas according to their worth or frequency of use.
Shine	Cleaning up the work environment, which includes sweeping, mopping, dusting, wiping off surfaces, putting equipment and supplies away, and so on. Shine entails executing regular maintenance on equipment and machinery in addition to simple cleaning.
Standardize	Working in a consistent and regular manner is what standardizing work habits entails.
Sustain	The benefits include developing a competence culture and shortening instructional cycles. 5S training, checklists, department tours, performance evaluations, and management assistance are all strategies for keeping 5S in place. To verify the company's commitment to "5S," an audit must be performed on a regular basis.
Source: https://asq.org/quality-resources/lean/five-s-tutorial	

Figure 1: 5S's of Kaizen



Source: <https://www.6sigma.us/six-sigma-articles/understanding-5ss-of-kaizen/>

Transportation: As the property projects were not in one area and the clients had to travel to different locations, the firm was asked to target the valid customers only to choose specified area near to the clients' and not the entire Pune city.

Communication: As for active conversions, the lead created or possible consumer reach process was virtual-based, instead of physical. The firm was suggested to employ an effective customer service policy. In order to get an effective customer service in the real estate, two fundamental areas were taken into consideration: the ways of communication which are set with the client and the modalities of attending the client.

Motion: As the location of projects and project agents varied greatly, the team agents were allotted a specific area and were restricted to <25 km properties to focus well on the customers.

Waiting: It was observed that some customers failed to reach on time for the booked time slot. Hence, the firms were suggested to use pre-calling and sometimes double calling to make sure the availability time of the customer.

Overprocessing: Since there were several follow-ups for a single sale, the firm was asked to restrict to 3-4 follow-ups, spanning a week after minimum two property visits. This would reduce the unnecessary time and effort given to the sales that had less chance of closure.

Overproduction: It was observed that sometimes multiple agents were working on the closure of the same project, resulting in a competitive case for the whole team. It was suggested that the company use this to their advantage and focus their efforts on other property builders.

Defects: Sometimes, lead conversion failure with an active sale was observed. To attend these issues, it is suggested that the firm focus on genuinely interested customers only.

Furthermore, we concentrated on implementing regular daily routines where each employee keeps a tab on his/her responsibilities for the day. We produced a standardized poster to make sure the two continuous improvement stages are followed. Additionally, before leaving for the day, workstations should be arranged. Each employee was responsible for ensuring that the 5S standards were followed. Managers were instructed to ensure that each position has obligations focused on the 5S stages and that each person is aware of his or her tasks in order to complete the regular 5S assessment form on a weekly basis.

Results

The related analysis of the findings two months after we applied the 5S strategies listed above is shown in Table 3.

Table 3 summarizes the findings and compares them to the initial assessment. After successfully implementing continuous improvement tools like 5S, it was discovered

Table 3: Improvements to the Case Company's Organizational Structure

Description	Before	After
Projects in development	8 weeks	8 weeks
Success rate for sales	10%	14%
Increased profit margins	12%	15%

that the outcomes were motivating and provided the management encouragement to apply comparable improvement tools and processes in other departments. The required time for project closure had improved significantly, allowing the management of the company to focus on other aspects of business scaling. The success rate for sales also increased from 10% to 14%. This also enabled the team to make better use of resources. The effective deployment of continuous improvement techniques and procedures also made a beneficial influence on overall revenues, which rose from 12% to 15%, resulting in a 3% profit growth. It was suggested that concentrating on this approach helped the organization reduce the amount of negative feedback and encourage relationship with workers, and created a healthy ambiance for exchanging a pleasant experience with the client. Finally, the implementation of 5S and changes to organizational framework increased operations and information flow, and enabled the case company to efficiently achieve the project deadline on time with improved client satisfaction.

Conclusion

One of the practical implications of this study is that it demonstrates how basic Lean Six Sigma technologies may be used to address complex difficulties in the service industry. Second, the project results show that in order to successfully use Lean Six Sigma methodologies in service industry, team leaders must change their mindset and understand the usage of tools and concepts applied in service industry environment. This study highlights how when used effectively, the technologies deployed may be leveraged to address complex difficulties in the service industry. The team leaders demonstrated that using basic tools to launch initiatives and gain momentum is an effective method for ensuring project longevity. Communication at all levels is important for the success of a Lean Six Sigma program, regardless of the situation. The results of this study contribute to the development of methodologies and strategies for applying Lean Six Sigma methods and concepts in the service sector. This project intends to help academics and researchers investigate the use of Lean Six Sigma in a variety of situations.

Future Scope: Another objective to consider is continual improvement in order to minimize internal expenses and build internal capabilities within the firm. A healthy working environment results in continuous progress. By concentrating on the company's

objective to develop internal capabilities, the company's chances of improving revenue and competitive edge increase. Additionally, increasing internal talents could be essential for supporting the organization in obtaining market supremacy.

It is suggested that the project selection form's information should be updated and adjusted once a year due to the possibility of various modifications. This ensures that the project selection procedure follows the company's current orientation. It is strongly advised that the 5S approach be used not only in certain departments but throughout the work area. In addition, the 5S audit must be completed on a frequent basis to guarantee that the 5 phases are executed and maintained. Researchers urge that the administration must evaluate the organizational framework on a frequent basis in order to adapt the organizational structure in case of any changes that take place in the firm. ♦

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