

LEVEL OF IMPLEMENTATION OF LEAN MANAGEMENT STRATEGIES IN HEALTH CARE: A CASE STUDY OF HYDRABAD, PAKISTAN

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ABSTRACT

The purpose of this paper is to find out the level of lean management implementation in two different health care sectors. One is public healthcare and another one is the private health care sector. This study focuses on two hospitals one is from the public sector and another is from the private sector. This paper focuses on seven strategies of lean management that are 5s, standard work, Kanban, jidoka, JIT, value stream mapping (VSM), and kaizen. 5s contains eleven statements, standard work contain six statements, kaizen contains one statement, value stream mapping contains two statements Kanban contains one statement, jidoka contains one statement, and just in time contains one statement. The data is gathered from the management of both hospitals. The gathered data were analyzed by using excel and present in the form of graphs and tables. The results from the analysis revealed that the level of implementation of lean management is strong in the private sector and weak in the public sector.

Keywords: Lean Management, 5s, Kanban, Jidoka, JIT, VSM. Kaizen, Standard Work.

I. INTRODUCTION

In the most recent work, the USA national survey researcher includes 1000 hospitals in research to observe the connection of lean management adoption and the whole performance of hospital through diversified results. Many hospitals were in the initial stage of implementation of lean management [1]. Lean management is a philosophy that gives importance to adding important activities to customer finding and removing the different type of wastes in processes [2]. Lean management is used in the industrial sector as well as in the service sector. Lean management is a philosophy that is based on many strategies used for making service better. Nowadays hospital gains more attention because it is very sensitive service sector as compared to other so that's why lean is consider in hospital for making services better in the hospital. Healthcare specialist trying to implement lean management as a service improvement tool for many years [3]. Hospital management is very difficult and critical. Generally, in simple words, it is not possible to recognize the quality of healthcare the cost of healthcare and the most important is the delivered services of healthcare [4]. Lean is included in an important approach of management which is used for continuous improvement. The implementation of lean management in a wider sense by applying strategies of lean to achieve the goals [4]. There are seven most important strategies of lean management which are frequently used in hospital, these techniques are [5]. 5s, standard work. Kanban, jidoka, JIT, value stream mapping and kaizen. Sort means to remove the unwanted things from work area another for sorting is words clean the work area for operations [6], and the second step in 5s is set in the order it means to place the thing very near to the working area. Cleaning is the third step included in 5s that includes all cleaning activities [6]. Standardization is the fourth step of 5s it is the accomplishment of implementation of above 5s [7]. The fifth step is a self-discipline that means the above 4s are done in small time regularize all activities. JIT is defined as what type of material is required when it is required and how much is required for further processes. Jidoka is a strategy that is used for finding the errors in processes automatically. Kanban starts from the Toyota production system and makes its origins in management Kanban generates a good flow system that shows the participation of employees and workstations better [8]. Standard work in a hospital is defined as maintaining the standards for patients give them the best services in proper time. Kaizen is introduced by the Japanese and kaizen is the success factor of Japanese companies kaizen is a supervision term. kaizen is the combination of two words in Japanese kanji means (ideograms) and kai means (enhancements) and (Zen) means good moral and kindness [9]. Kaizen is also used for improving the flow reduce the waiting time [10].

II. METHODOLOGY

Study area and data collection:

Hyderabad city is selected as the study area the data was collected from the management department of both hospitals. To meet this research aim the set questions is in the form of close-ended questions followed by a five-point Likert scale which starts from strongly disagree to strongly agree.

Methods of data analysis:

The data were analyzed by calculating the percentages of responses by using a percentage formula and draw bar graphs on excel

III. RESULTS AND DISCUSSION

The aim of research is achieved by calculating the collected data the results is in the form of graphs and tables. The questionnaire is based on seven strategies of lean management. These strategies contains 23 statements eleven statements from 5s, six statement from standard work, one from kaizen, two from VSM, one from Kanban, one from jidoka and one from JIT the questionnaire for both hospital is same

From Table 1 the level of implementation of lean management in public hospital the cross sign shows the disagree and strongly disagree and tick shows the agree and strongly agree and 0 shows neutral responses. According to result the most responses for 5s in public hospital is seven tick and four cross it means four responses are disagree or strongly disagree and two responses are agree or strongly agree. The 5s responses for private hospital seven are tick, three zeros and one cross it means seven responses are strongly agree or agree, three are neutral and one is disagree or strongly disagree. For standard work the responses of management of public hospital is one tick two zero and three cross it means one response is agree or strongly agree, three responses are disagree or strongly disagree and one is neutral. The private hospital responses for standard work is five tick and one zero it means five is strongly agree or agree and one is neutral. And for kaizen both hospital responses are disagree. For VSM both hospital are agree. Kanban the public hospital responses are cross it means disagree or strongly disagree and private hospital response are agree and strongly agree. For jidoka the results are same as Kanban and for JIT both hospitals are strongly agree or agree.

According to above statements the results are clear that the level of lean implementation strategies in public hospital is weak as compared to the private hospital

INDICATORS OF PUBLIC AND PRIVATE SECTOR HOSPITALS:

Table 1: Lean management strategies indicators in Public hospital and private hospital. In this table () tick show, the majority of respondents are agree and strongly agree, 0 show the majority responses are neutral, and the cross show the majority is disagree and strongly disagree with the statements

| Lean management strategies | Indicators | Public hospital | Private hospital |
|---|---|-----------------|------------------|
| 5s (sort, set in order, shine, standardize and sustain) | Sort the inventory. | ✓ | ✓ |
| | Reduce paperwork | X | ✓ |
| | Method to prevent mix up of document (by using coding etc.) | ✓ | 0 |
| | Highlight machines by using labels | ✓ | ✓ |
| | Safety notice and mention exit lines | X | X |
| | Switches and lights are properly labeled. | ✓ | ✓ |
| | Floors, windows, and walls are clean. | ✓ | 0 |
| | Storage places for cleaning tools. | X | ✓ |
| | Checklist based on 5s procedures. | ✓ | ✓ |
| | Regular training program. | X | 0 |
| Documents are well managed. | ✓ | ✓ | |
| Standard work | Hospital has a management board. | ✓ | ✓ |

| | | | |
|--------|---|---|---|
| | Standardized checklist and labels. | 0 | ✓ |
| | Standardized visuals for safety. | 0 | ✓ |
| | Storage of files in workplaces. | X | ✓ |
| | Checklist for common processes. | X | 0 |
| | Follow the standard of work. | X | ✓ |
| Kaizen | Continuous improvement processes | X | X |
| VSM | Schedule and display all cleaning activities daily. | ✓ | ✓ |
| | Construct the flowchart. | ✓ | ✓ |
| Kanban | Kanban for running their system. | X | ✓ |
| Jidoka | Automatic detection of errors. | X | ✓ |
| JIT | Use JIT in the hospital | ✓ | ✓ |

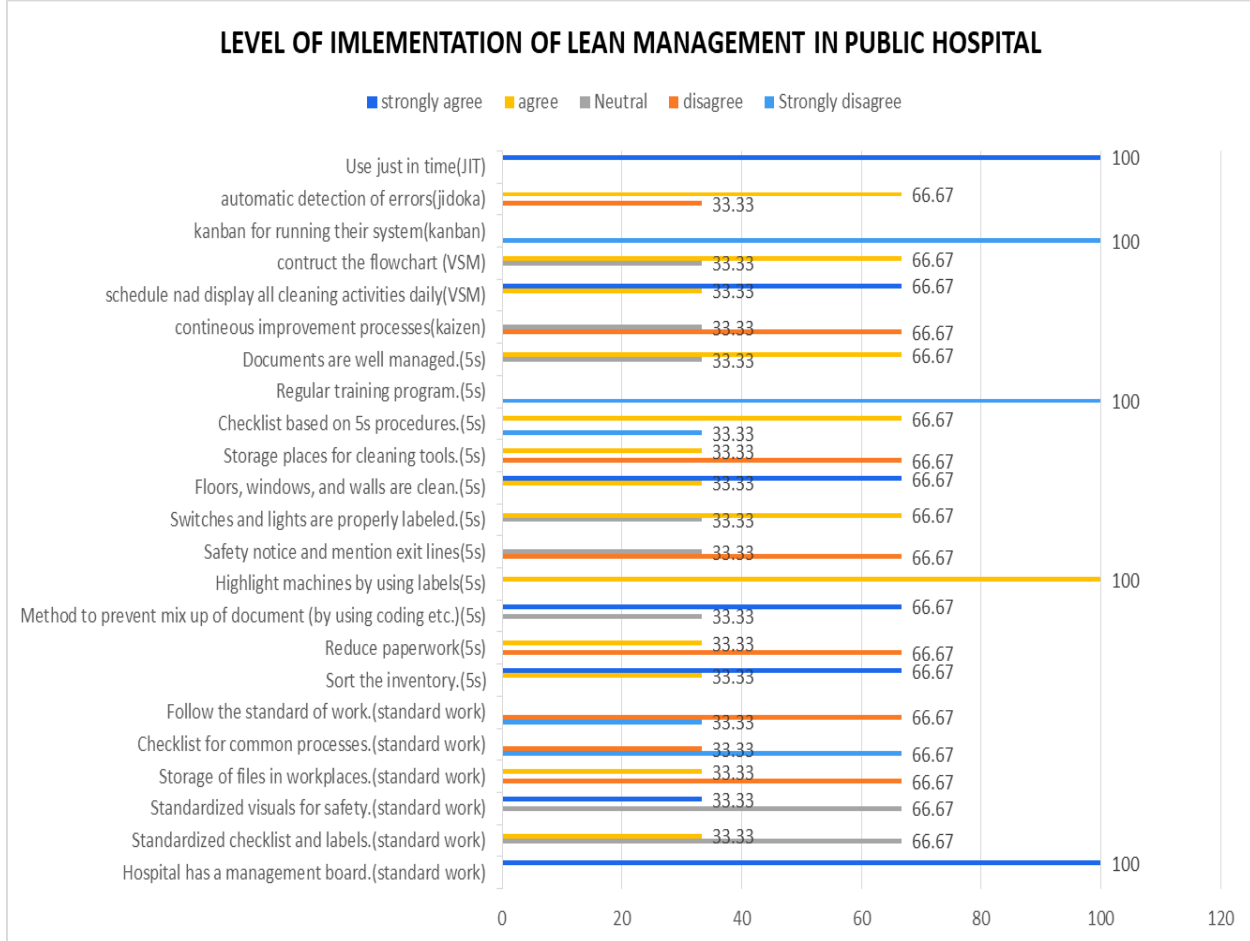


Figure 1: level of implementation of seven strategies of lean management in public hospital

The above figure 1 shows the Likert scale percentages of every statement. The questionnaire is filled by three respondents from a public hospital. The most agree response of public hospital is just in time and hospital have management board but disagree and neutral responses are high as compared to agree and strongly agree with responses.

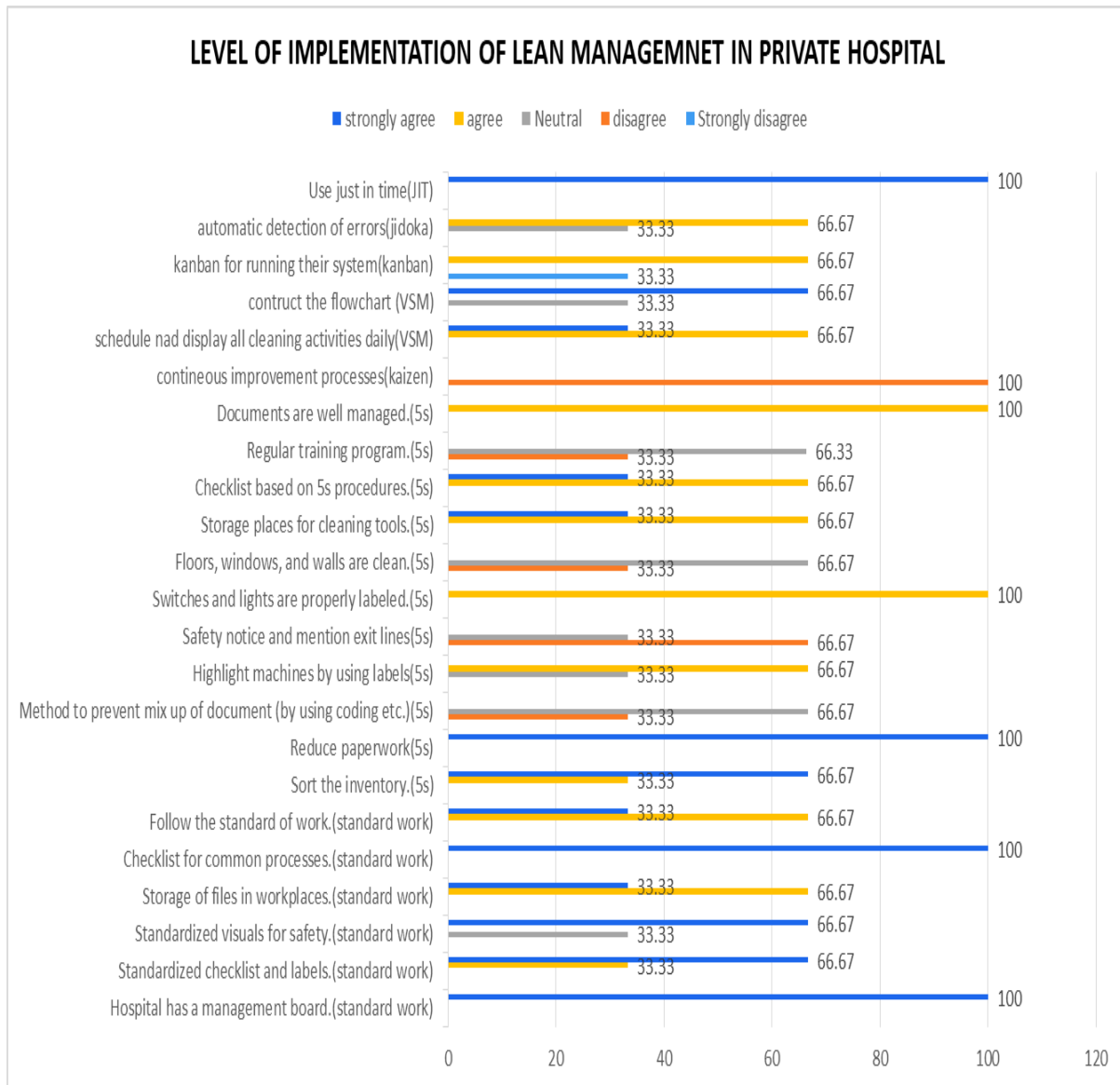


Figure 2: level of implementation of seven strategies of lean management in private hospital

The above figure 2 shows the Likert scale percentages of every statement. The questionnaire is filled by three respondents from the private hospital. The most agree response of private hospitals is just in time, reduce paperwork from 5s, checklist for common processes, the hospital has a management board. The above chart shows the most responses are agreed, disagree and the neutral ratio is very less.

IV. CONCLUSION

This paper concludes that the level of implementation of lean management tools/strategies in a public hospital is weak as compared to the private hospital. This is revealed from the results the percentages of agreeing and strongly agree responses for a private hospital are larger than the public hospital. This is because of the lack of attention of management towards public hospitals. In our country, most people use public hospitals but the public hospital management is weak that's why people don't take good services at the proper time the waiting time is high, the quality of service is unsatisfactory, cleaning condition of the hospital is not good. But the private hospital management implements the tools/strategies of lean management better at their hospital. From the survey, it is very clear the condition of a private hospital is much better as compared to the public hospital.

V. REFERENCES

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