

Lean Management for the Digital Workplace

A literature review on the support of Lean thinking and Lean Management methods for working in a Digital Workplace

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Abstract: This paper discusses effectiveness of Lean Management applied on Digital Workplaces. Over decades, methods and thinking of Lean Management has emerged in the production area and were transferred to others business areas thereafter. Applicability of Lean Management thinking and acting on a digital workplace is going to be analyzed herein. Definitions and examples will be discussed.

Keywords: Lean Management, Methods, Digital Workplace, Software, Homeoffice

1 Introduction

This article gives a survey on Lean Methods and their use for digital workplaces, especially for the digital workspace. With a subsequent substitution of the definition from Digital Workplace over Lean Management at office and useable methods a short recommendation is prepared. In a structured and organized office, standards can be set by the company with regards to materials, gadgets and communication. Only software and communication side can be influenced and controlled when working in the digital office. The home office working place is setup very heterogenous and dependent on the personality of each specific person. This might seem to be very helpful regarding inspiration issues but also has impacts on the corporate image and process management. Thereafter, it can be very helpful to define and find a basic setup within the following methods review.

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2 Main Part

2.1 Definition

A selection of the most important definitions should be stated prior to discussion. The definition of a Digital Workplace includes:

- the optimization and extension of the workplace [Gu17]
- increasing technical specifications for the IT workplace [AMP19]
- social software for enabling the workplace [NH20]

One has to recognize that the Digital Workplace had emerged over decades and in some countries the importance of such solutions is very important due to the actual pandemic situation and its subsequent mandatory Homeoffice.

A basic setup for Lean Thinking and the Lean interaction is copied and adapted from the Lean Office standard [Re21]:

- right content
- right target group
- right time
- right quality
- right quantity
- right medium
- right place

Some sources consider value stream mapping and management as an important practice [Tl06] [Ld11] for optimizing the office. The following techniques are often use in the environment of office and software:

- 5S [Le21]
- Muda [Ma21]
- Ishikawa [Kj21]
- Pull-principles [Bf18]

Generally speaking, the Digital Workplace describes a platform for the working place, which includes information, software, tools and services for the user. [Wi21] Additional content like infrastructure topics, user groups, process management and others can be

obtained by screening the media. Furthermore, the digital workspace with computers, mobiles, tools and software is a part of the digital workplace.

This topic is evolving into high interest regarding the pandemic situation. Numerous companies established the swap from office working to mobile and home office working. Lots of benefits are supporting this decision, so the impact of the digital workplace is tremendously increasing.

2.2 Discussion

A successful combination of Lean thinking and the use of the right methods could be helpful and makes the daily business of the Digital Workplace in mobile and home office more efficient and effective. [Im21]

Desk and office utensils should be reworked and modified with the 5S [Le21] method. Lots of companies do this 5S at office [KBA17] for a long period of time and support their employees getting more efficient in their job. In the first step, redundant things are sorted out: on the desk, things like duplicate items, too many pens, rulers, staplers, disks are quite common examples as well as useless items like malfunctioning pens, dried ink, unreadable rulers, drained batteries, dirty storage boxes and so on. This first step of sorting out is subsequently applicable on the digital workplace. How much software is used in duplicate for doing the same things? Data storages, directories, mail organization, telephone books and similar spaces have to be checked and data which is no longer in use must be sorted out. For proceeding this, the users have to gain overview of the work environment and take a look at the workspace in terms of arrangement, number, type and scope. Lean Methods like the chalk circle [Td19] can be helpful to get an overview on the desk and the digital workplace. This overview can be achieved by looking at the working area from a defined place.

Within the next step of the 5S Method, the user has to take care of the items remaining after sorting out. Target is an arrangement of all needed items in a meaningful and optimal way for the workplace. In the case of shared tools or office storage, it is recommended to label the items accordingly so that everybody is able to find them always at the same places. This is also successfully applicable for the digital workplace. (Share Point) Directories, presentation layouts, files, mails and chat protocols should be kept in a similar and user-friendly, logic operation structure. A frequent problem is the communication via different channels, e.g. information for one project via Mail and Messenger. By use of a simple but applicable structure the user is able to handle this multichannel communication without any problems or interferences. Suppliers for software solutions often provide integrated systems which enable this way of working.

Within step three of the 5S Office, the workplace as well as the work equipment should be brought into a clean state. At the end, a neat and clean workplace does not only look good, but also exudes a good and fresh feeling. [FT06]

Step four and five start the standardization of the arrangement. The initial step is to define this standard and make sure that it is finally set and fixed for the future followed by the standardization of the positive results of the application of 5S. These results could be transferred to other similar workplaces then. This kind of a 5S standardization meeting may be a good chance to meet the colleagues online and do a workshop together as long as we stay in the Home Office mode. Standardization is also helpful for shared documents and directories in the company. Finding a standard which is acceptable for all colleagues makes working together more efficient. Separated communicator channels for the plurality of topics, organization of information and rules for using different software solutions take care of a lean working culture. Furthermore, self-discipline is very important for long-lasting success.

Secondly, an analysis of the waste has to be done after workspace 5S. In the Lean philosophy this is known as Muda. The customary definition of Muda for production floors includes seven kinds of waste. These are overproduction, waiting-times, transport, unnecessary stocks and movements, defective parts and manufacturing processes. The kinds of waste principle can be transferred in the Homeoffice as well. Some examples for Muda are found and an overview of this topic is given by use of them. [Ma21]

Overproduction and information overload

- overcrowded to-do lists and hoarding of office supplies and open requests
- sending emails to large distribution lists
- statistics for the sake of statistics
- use of multiple communication channels for distributing the same content
- exorbitant number of projects per employee
- meeting invitations for unconcerned participants

Waiting and searching times

- waiting for colleagues and decisions
- searching for work resources or documents
- exorbitant number of meetings per day/week and therefore limited number of free time slots for working

Transport and organization of information

- incomprehensible wording and data re-entry due to incompatible systems landscape

- poor filing or filing system causes duplication of work and employee substitution problems

Defective parts and inappropriate manufacturing processes lead to work errors and rework

- incorrect or outdated documents
- incorrect information
- incorrect or outdated files or formats

Transport and Movement

- long distance travels instead of video conferences
- business trips for short appointments and manual fetching of information

The typically occurring *Mudas* should be cleaned and solved. Lean Methods like Ishikawa diagram [Kj21] and the five Why [Bs16] can be helpful for finding problems. An Ishikawa diagram for the workplace should be created when there are ongoing problems with the working quality within the digital workplace. Additional problems could be identified by use of analysis for different sources. [Sc21] The working environment should be silent and well illuminated. The office gadgets are to check from the machine side. Is the IT setup in a good shape and are the software updates managed well, so that there is no wasted working time? The working processes have to be reviewed as well. The Five Why method should be used to identify the matching problem. The problem can be defined more in detail by correct inquire of the Five Why.

At least, the pull principle can be an interesting way for the work in digital work groups. [Le21] Projects, daily business and requests can be planned by use of an agile system and each employee pulls the tickets. Therefore, free capacities of working time are efficiently used and non-value-added time for alignments and job scheduling is eliminated.

3 Conclusion

This paper reveals an Agenda for successfully preparing of work in a digital workplace. Most of the typically Lean Methods are quite helpful for optimizing the own workplace, no matter if it is in a production floor, in an open-plan office or at the desk at home. First of all, the workspace, the desk and the software gadgets, should be reworked with an 5S workshop. Subsequently following this workshop, the working space could be analyzed with Ishikawa and Pull-principles. Last but not least, it's more efficient for the daily load

to work in a pull principle. This means that jobs are starting when they're needed and there is more time available for preparing such topics.

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