To Set up the Basic Platform of Enterprises’ Independent Innovation Based on Lean-Flexible Thinking

Tian-ming XIAO*
Fujian University of Technology, Fujian, China
Email: xtm-9@163.com

Keywords: Independent innovation, Lean, Flexible.

Abstract. In order to raise the efficiency of enterprises’ independent innovation, it is necessary to set up the basic platform of enterprises’ independent innovation. Lean-Flexible Thinking can effectively improve the efficiency of enterprises’ independent innovation based on the important characteristics of Lean-Flexible Thinking. It is analyzed from four aspects including the establishment of Lean-Flexible enterprise culture, building of Lean-Flexible technology innovation team, improvement of enterprises technology management mechanism and implementation of dynamic planning and control.

Guidelines
Lean Thinking was put forward by James P. Womack and Daniel T. Jones in 1996 [1]. Lean thinking has five basic principles including defining value, value stream mapping, flow value, pulling and perfection [2]. At present, the application of Lean Thinking has been expanded from the initial auto production to multi fields. The academic literature offer numerous examples of firms that have achieved significant performance improvement as a result of implementing Lean Thinking [3]. If the flexibility of thinking can be furtherly improved, the innovation ability of Lean Thinking will be furtherly improved.

Lean-Flexible Thinking is formed by injecting Flexible Thinking into each cell of Lean Thinking. Flexible Thinking makes each cell of Lean Thinking become vivid and can actively travel to broad thinking space, find creative inspiration multidimensionally, break the old rules and build new regulations which can adapt to the current situation, have the ability to flow together with time and change things which can’t keep up with the time, take the initiative to care for subordinates. Then, the thinking angles, thinking breadth, thinking width, innovation ability, adaptability, problem solving ability of Lean-Flexible Thinking is more excellent than Lean Thinking. For the construction of the basic platform of enterprises’ independent innovation, Lean-Flexible Thinking has a special advantage.

The Important Characteristics of Lean-Flexible Thinking

Pull
Lean-Flexible Thinking absorbs and inherits the advantages of Lean Thinking’s "pull" concept and emphasizes on the concept of "task pull the process" the same as Lean Thinking, so that the process of every work has a clear purpose, the efficiency of each working process is improve and the customer satisfaction are raised with Lean-Flexible Thinking. Furthermore, the waste, such as excess production, is eliminated. That is to say, the work results which are not required are avoided by the application of Lean-Flexible Thinking.

*Author brief introduction: Tian-ming Xiao (1973 - ), female, the Han nationality, Fujian University of Technology, professor, Doctoral student of Chongqing University, research on direction for management science.
Detailed
Lean-Flexible Thinking is a kind of thinking mode which pays great attention to the details. Lean-Flexible Thinking can find solution to the problems from extremely open thinking space and carry out them carefully, meticulously and earnestly. Every step in the application must be required for the completion of the task. The quality of every work step is the foundation of the next work step. Every department and everyone in the organization is responsible for the protection of the final work quality.

Refined
Lean-Flexible Thinking takes the concept of "Strive for excellence and continuous improvement" and keeps the pursuit of perfection the same as Lean Thinking. Lean- Flexible Thinking has the spiritual foundation of continuous improvement with a breakthrough. Lean- Flexible Thinking takes "zero waste", "zero defects" and "zero failure" as the goal. Compared with Lean Thinking, Lean-Flexible Thinking takes more emphasis on smart, open, multi-dimensional, flexible state of mind. Lean- Flexible Thinking strives to solve the problem or achieve the goal by flexible, comprehensive, scientific methods and not subject to regulatory restrictions.

Adaptable and humanized
Lean-Flexible Thinking is a highly dynamic thinking mode which has the advantages of flowing with time. Lean-Flexible Thinking attaches great importance to objective changes caused by the time flowing and takes an objective and developing view on the development of the work. Compared with Lean Thinking, Lean-Flexible Thinking takes more emphasis on the adaptability, the innovativity and the work details.

Lean-Flexible Thinking is also a humanistic thinking mode. Lean-Flexible Thinking greatly respects the reasonable demand, special features and psychological feelings of the object of management and customers. Lean-Flexible Thinking calls for the application of humanized measures and methods. Compared with Lean Thinking, Lean-Flexible Thinking is more concerned about the needs of employees and improve the motivation and innovation ability of staff.

Lean-Flexible Thinking can Effectively Improve the Efficiency of Enterprises’ Independent Innovation
Firstly, Lean-Flexible Thinking integrates and innovates multidimensionally, optimizes process from multi angles, improves the pull flow details dynamically, breaks through scientifically by taking the customer demand, organizational or individual goals as the driving source. Lean-Flexible Thinking not only eliminate the hard push completely, but also achieve a flexible pull with the advantages of Flexible Thinking, so that the success rate is improved effectively.

Secondly, Lean-Flexible Thinking pay attention to the detailed application of lean thinking, such as daily application and personal application of Lean Thinking. The details of work will be improved by Lean-Flexible Thinking more comprehensively.

Thirdly, Lean-Flexible Thinking keep the pursuit of simple. On the one hand, Lean-Flexible Thinking keeps the pursuit of simple by lean. Lean-Flexible Thinking focuses on the application of a series of Lean methods to eliminate all waste, such as repetitive process, unnecessary time waiting, cumbersome and nonvalue added activities and so on. On the other hand, Lean-Flexible Thinking keeps the pursuit of simple by flexibility. Lean-Flexible Thinking focuses on simplifying the inherent process through flexible integration, improvement, optimization, organization design, product design, service design, etc.

Fourthly, The managers with Lean-Flexible Thinking are not only in pursuit of excellence, but also respect subordinates. A democratic, harmonious, relaxed, motivated cultural atmosphere is created. The subordinates being inspired are fully enthusiastic, positive and creative. The staff’s willing and ability of independent innovation are raised effectively [4]. So that employees’ independent innovation ability and efficiency is improved effectively with Lean-Flexible Thinking.
Application of Lean-Flexible Thinking in Constructing the Basic Platform of the Enterprises’ Independent Innovation

To Create a Lean-Flexible Enterprise Culture

The influence of thinking on culture cannot be ignored. Under the influence of Lean-Flexible enterprise culture, the two most basic improvement in the enterprises’ independent innovation management will happen. On the one hand, the majority of employees will change from study passively to learn actively with the concept improved. The employees’ ability of independent innovation will raise. On the other hand, since Lean is an approach that aims to reduce waste [5], the waste phenomenon in the whole independent innovation process will be eliminated, and the problems about insufficient resources in enterprises’ independent innovation are to get improvement. The resources of enterprises’ independent innovation have more security.

The process of forming Lean-Flexible enterprise culture should be gradual and orderly [6]. Firstly, The enterprises’ managers should pay great attention to Lean-Flexible Thinking. Secondly, the leaders take the lead in training to form Lean-Flexible Thinking. Thirdly, more and more employees form Lean-Flexible Thinking through training and other ways with the leaders’ promotion and encouragement. Fourthly, Lean-Flexible enterprise culture is gradually formed by the common influence of the employees with Lean-Flexible Thinking.

To Build a Lean and Flexible Technology Innovation Team

Firstly, Lean-Flexible Thinking is a humanized thinking which take the staff as the key of raising enterprise independent innovation ability. Lean-Flexible Thinking effectively promote the training and the introduction of high-quality technical personnel. Secondly, Lean-Flexible Thinking which hates all waste emphasis on streamline of enterprise technology innovation team from the whole to the details. The waste caused by small jobs and small details, which is often neglected in the past time, is eliminated. Capable and efficient technology innovation team is formed. Thirdly, the coordination and efficiency of the organization is not only due to the refining characteristic, but also due to the flexible characteristic. The enterprise technology innovation team, which is constructed by using the Lean-Flexible Thinking mode, can not only meet the basic requirements of scientific nature and systematicness, but also have more obvious elastic and dynamic coordination.

To Improve Enterprises’ Technology Management Mechanism

Although enterprises can also recognize the importance of establishing and improving the mechanism of enterprise technology management under the traditional thinking mode, it is difficult to establish a standard, scientific and systematic technical management mechanism due to the lack of scientific nature and systematicness. So that some of the technical management documents conflict with actual situation, policy or other documents.

Lean-Flexible Thinking mode helps to improve the traditional thinking mode. Lean-Flexible Thinking promote staff to fully consider all aspects of enterprise technology management, including the lap joint of enterprises’ technical management documents and the documents of quality management, cost management, time management, security management and contract management. The implementation details of technical management is fully considered, including setting up supporting documents, improving the incentive measures, etc. So that the scientific, normative, systematic and operable characteristics of enterprises’ technical management documents are improved.

To Carry out Dynamic Planning and Control

The traditional thinking mode often leads to the phenomenon of "planning distortion", which has quite large negative effects on the quality, cost and schedule of enterprises’ independent innovation. Transformation of thinking mode is an urgent task for enterprises to improve the effectiveness of planning and control.

Lean thinking put forward "the last planner system ", that is to change the "push planning system" to "pull planning system". Under "the last planner system ", the higher plans are pulled by
the lower plans which can be more close to the customers’ demands. The operability of the plan is improved. These operable plans are being used as the measures of control. And Lean-Flexible Thinking not only pay attention to Lean methods such as “the last planner system”, but also takes the basic concept of "soft", "dynamic" and "pull" as important thinking internalization. Lean-Flexible Thinking can be good at dealing with the emergencies with the further improved planning and control and optimize the quality, cost and efficiency of enterprise independent innovation.

Conclusions

In short, Scientific thinking is the source of inspiration and a strong driving force of the independent innovation of enterprises. Only by the application of scientific thinking mode, the independent innovation of the enterprises can succeed. Lean-Flexible Thinking is proposed with many highlights of thinking. Lean-Flexible Thinking can make the important concept penetrate into all aspects of the enterprise independent innovation management at all levels. Lean-Flexible Thinking is not only beneficial to the macro management of the independent innovation, but also beneficial to the micro management of the independent innovation. The literatures studying on the independent innovation of enterprises by scientific thinking are absent at present and this paper is a meaningful supplement.

Acknowledgments

This work was financially supported by the National Social Science Project (12BGL015).

References


