

ONE MANAGEMENT METHOD, TWO COUNTRIES. LEAN METHOD APPLIED IN ROMANIA AND FRANCE

*Cosmin DOBRIN*¹
*Ruxandra DINULESCU*²
*Raluca COSTACHE*³
*Laura VOICU*⁴

ABSTRACT

The term "lean" applied at the production management was adopted by a team of researchers from the Massachusetts Institute of Technology (MIT), resulted from an analysis of the Toyota Production System.

This term does not apply only for the automobile industry. It is also applied at fields like administration services (lean office), product development (lean development), information and communication technology and also sanitary system (lean management). Sanitary system uses these organizational and management principles in order to find a way for better using the resources (rare ones) available to meet the constantly evolving needs.

In USA, the lean system has been already introduced in hospitals, while in Europe, sanitary institutions still struggle to introduce it. This article will present the differences, from a lean perspective, between two countries with solid sanitary systems, Romania, where this method has not been applied, even if the sanitary system needs an urgent change, and France, a country that has adopted the Lean method only in the emergency department, but with the need to be applied also in the rest of the departments.

KEYWORDS: *Health care, Lean management, sanitary system*

JEL CLASSIFICATION: *H111, H115, M11*

1. INTRODUCTION

In the past, when the medicine was still simple, patients would go to their generalist to be consulted and then, depending on the situation, the generalist would have sent them to a specialist (if the situation required so). It was a sort of relation (between patient and generalist) that lasted as long as the patient was in a specific region.

Later, the medicine become smarter and smarter, the doctors were heading to medical centers and the patients were moving more and more often, in a way that the situation got maybe more complicated that it should have been. Facing a series of bureaucratic activities, the patient had to acquire new know-how skills in order for him to operate in the system (Friedman, 2000).

Step by step, new centers and clinics have developed and after a while, the private sanitary system appeared and created a sort of competition with the public one.

¹ Bucharest University of Economic Studies, Romania, cdobrin@yahoo.com

² Bucharest University of Economic Studies, Romania, ruxandra.dinulescu@gmail.com

³ U.M.F Carol Davila, Romania, ralu_alf@yahoo.com

⁴ Bucharest University of Economic Studies, Romania, vlauravioleta@yahoo.com

All around Europe, there are different sanitary systems, with different clinics and all sort of modern equipment, different prices and conditions, etc. In this context, only one thing remains unchanged, from the early times until present: the patient. His needs are the same, if not even bigger once the society has evolved. Once the big medical centers have developed, so were the patients' conditions; he preferred to pay a higher amount for medical services, in exchange of a good well service, attending exactly to his needs.

In this way, with high medical ranked centers and high expectations from patients, hospital managers have to find a solution, based on the client's needs, for providing and assuring him the best conditions.

A method like this is Lean management. In this article we took for example 2 countries, one which has already introduced the method but only in the emergency department, France, and the other one, which needs to introduce it, Romania.

2. SHORT DESCRIPTION OF ROMANIA'S SANITARY SYSTEM HISTORY

Romania has a long tradition concerning the organization of the health care system.

After the age of the Organic Regulations, thanks to Nicolae Kretzulescu, in 1842, and to Carol Davila, in 1853, begins the organization of the health care system. In 1874, the first health law orders the organization as a unitary form of the health care system, bringing together all the updates brought by Davila and Romanian doctors thought in foreign countries.

The health care system was guided by this law until the year 1910, also the moment when a new law, which brought improvements to the oldest one, started to define the dispensary as a sanitary institution for rural environment, gathering a number of 15000 habitants for sanitary assistance.

Hygiene regional laboratories have been created with this law. This is why it is mentioned that the law first initiated in 1930, creates for the first time a "health care system" along with all scientific significance, based on the Bismarck insurance model (Dragoi, 2010).

In 1949 the Organization Law of the public health care system was approved and after that, a progressive transition followed to Semasko system, a specific system for eastern and central Europe countries. This system, based on the universal insurances principles and the free access to services, had the following characteristics:

- Funding by state
- Centralized planning
- Rigid management
- State monopoly over the health care services
- The absence of the private health care system

In other words, the state provided the health care services for all the society members, leaving the user a very little dose of freedom of choice, having as main purpose a high level of equity. Through the Ministry of Health it was created a highly standardized system, centralized and strictly regulated.

The end of 1989s found Romania in a deep economic and social crisis, and of course, a sanitary one. The population's health care was less than mediocre, the health care services were underfunded, there were no positive motivation factors for the medical staff and the internal efficiency of the system was really low. The political change from 1989 had as a first reaction, the rejection of all structures that could form a totalitarian state and with this change – for the health care system- the principles and the organization of a Semasko socialist health care system.

The main pressure force was formed by the physicians, who wanted the introduction of a Bismarck model and the development of the private sector in public services.

The most prolific year was 1992, dominated by the development of the project for a new health care system. At the beginning of 1993, the Health Care Ministry owned a reform strategy for the health

care services developed by foreign consultants in collaboration with the old National Health Care Institute.

The final objective was to improve the population's health through a more organized effort.

Between 1993 and 1994, a leading reform committee was formed and in 1994 a modern sanitary management school was formed with technical assistance of academic institutions from England, Canada and USA.

Starting with 1995, important laws were promulgated, regarding the structure and the organization of the Romanian health care system. Among the most important there was the Law 74/1995 regarding the organization of the Physicians College, the 145/1997 law regarding the social health insurances, the 100/1997 law regarding the public health and the 146/1999 law regarding the hospitals' organization, defined later as the law number 95/2006 (Enachescu, 2004).

3. SHORT DESCRIPTION OF FRANCE'S SANITARY SYSTEM HISTORY

In France, the State has the main role in the administration and governance of the sanitary system. He is also the guarantor for the public interest and for the improvement of the sanitary state for the assembly of population.

The French sanitary system is a public system, financed by the social subscription of workers and by taxes, ensuring access to health for all citizens. This system is primarily controlled by the state, both nationally and regionally. A recent law sets guidelines in terms of organization and resources of the institutions involved in health.

Two major issues arise: controlling health costs and reducing social and regional inequalities in health system.

In France, the state intervened late in the management of the public health system. Thus, only two laws, a century apart, were officially labeled "public health law": the law of 1902 and the law from 2004.

- The law of 19 February 1902 sets out a list of diseases which had to be mandatory declared; also, it established mandatory vaccinations and included measures for disinfection and a system for monitoring deaths in cities.
- The law of 9 August 2004 on public health policy aimed to give a frame of reference to all the multiple stakeholders in public health, first by creating new national and regional structures expertise, consultation and coordination of actors, and secondly by setting health objectives quantified and evaluated every 5 years.

The late 20th century and early 21st are marked by significant organizational changes, which result either of transfers of health skills (including the increased competences of the departments following the decentralization laws of the 1980s), or by the affirmation of the regional framework as a support for the intervention of the state.

Concerning the access to care, the 2004 Law on Health Insurance redefines the organization of health care delivery and medical control of health spending. Particularly, it establishes the notion of care pathway with the statement of each insured.

In terms of prevention we can include the Evin Law from 10th of January 1991, the first law against smoking and alcoholism, or the Law of 4th of March 2002 on patients' rights, which defines a policy for preventing and creates INPES (national Institute for Prevention and health Education).

Last major law, the law from 21 July 2009 regarding the reform of the hospital and patients, health and territories (HPST), sets the broad guidelines for the organization of the health system for the whole French territory.

Today, the major departments and stakeholders involved in health planning are:

- The Ministry of Labor, Employment and Health is the ministry directly in charge of public health in France. Two Generally Directions are specifically related to this issue: the General Direction of Health (GDH) and the General Direction of the Organization of Care (GDOC).

Three other ministries are also involved in the development of health policies:

- the Ministry of Solidarity and Social Cohesion;
- The Budget Ministry, which since the establishment of the Orientation of Public Finance Act Law impacts all public policies.
- The Health Insurance, in charge of risk management and state partner in the organization of care. Nationally, NUHIF (National Union of Health Insurance Funds) brings together the three main health insurance schemes.

Since the Public Health Law from 2004, the definition of public health policy in France also relies on several organs of expertise such as the HWI (Health Watch Institute), NIPEH (National Institute for Prevention and Education for Health), the HCPH (High Council of Public Health).

4. WHERE DOES LEAN APPLIES THE MOST

The implementation of „Lean management” in services is mostly recent along with fewer extraordinary examples, among which, some 3 majeur domains will be shown next:

- Banking is one of the first sectors who adopted the Lean principles. The back-office work requires a standardized process, as well as, an optimized one.

An important bank who has adopted such an approach affirmed that there was initially a longer than two productivity gap between the second and fourth quartile (thus leaving aside the most effective employees who are in the first quartile). The standardization and *kaizen* well-structured approach helped reduce this difference in a spectacular way, which translated into a doubled productivity for the last quartile.

A well-known bank from USA, Bank One, had the chance to reduce her lead times from 30 to 70% thanks to a lean deployment realized from 2002 until 2004, producing a significant increase in revenues. One of the most important contributions from this method and on this example is the capacity of easing the processes (eliminating the *muda*).

- The IT sector and technology integration projects began the implementation of *lean management* for several years. Here we can find some examples both from the production of informatics services but also from the project development (different examples of utilizing Lean in the informatics production were successfully reported from EDS and McKinsey).

In this sector, we can find Lockheed Martin, an important American company which applied Lean Six Sigma in 1995 in order to straighten the enterprise helping generate 4 milliards dollars. The Lean approach permitted to reduce the projects' flow along with increasing the productivity.

- The healthcare system is also aiming for Lean principles. The sector has a lot of common points with factories, especially a complex management of expensive equipment (without mentioning the fluctuating and imperative character of the request).

Here, we can find as an example, the Stanford Hospital from USA, a precursor and a project trader, which started a *lean* project at the end of 80s. The transformation was slow but constantly, extending over 10 years, in order to achieve extraordinary results: an economy of 25 million dollars per year for the material, the lead time passed from 30 hours to 19 hours (average number of intensive care per patient), and an economy of several million dollars for the operating part (Rouzaud, 2011)

5. ROMANIAN AND FRENCH BEHAVIOUR FROM A PATIENT'S POINT OF VIEW

French consumers have from time to time concerns about their health and sometimes, even real problems that require special treatments.

An average person visits his doctor or a medical center for about 4 times per year, for submitting themselves to a diagnostic process, followed if necessary by a treatment.

Here is how the Lean principles are translated for this field:

- “We want that our problem to be *completely* solved, which means that we want an exact diagnostic, without errors, followed by the best treatment.
- “We want to minimize the total cost of the process. We also want to *avoid losing our time.*”
- “We want to obtain a diagnostic and receive a treatment exactly when it suits us, without having to face long waits before having our meeting; also, we don't want that our appointments to be fixed at inconvenient hours.”
- “We want to obtain a diagnostic and a treatment exactly *where* we want, which means that, ideally, close to our home, or close to the place where we study or close to our job” (Caseau, 2011).

Regarding the Romanian consumers, they have the same demands only that, in the Romanian sanitary system no one really takes these demands into consideration. That is why, a Romanian patient is complying himself, and adapts, so that, in the end, he will be seen by the doctor and he will get his treatment.

Mainly, a major difference between these 2 systems, is that even if the patients have the same needs and the same demands, in the French system, their point of view is listened, while in the Romanian system, everyone “understands” them, but no one is actually changing anything.

What we do have to realize is that this issue is not about the quality and preparation of the doctors – both in Romania as well as in France there are very good specialists and generalists – but for the percent they allocate to the patients' need.

6. EXAMPLE OF WHERE WE COULD APPLY LEAN. THE “ROAD” OF A NORMAL DIAGNOSE

Let's assume that the patient has a problem: sore throat and sometimes his ear are clogged. He consults the internet (since it's the closest thing that he can do) and after reading a lot of opinions he finally decides to consult a specialist.

In the table 1, we describe the main steps taken both by a French patient and by a Romanian one and the time needed (on average) to accomplish a certain step.

Analyzing the time spend in Romania and in France, regarding the traditional road taken by the patient for the diagnose process, which starts at the medical center and finishes in a hospital center, we can observe that a significant amount of the lost time it's between the moment of the initial contact and the appointment making system.

In both countries, the main practice consists in placing the persons with less medical knowledge at the point where there is the first contact with the patient (the initial contact), who is, after that, sent at persons more and more specialized. The result consists in the fact that the patients are forced to call again and again along with the fact that some information may loose on the way and no one is satisfied.

As a start, the appointment system should work correctly. For example, the patients are required to be punctual, even if the consultation has chances to start later than it was arranged. Many people don't arrive in time and then all the medical system gradually deteriorates.

For example, in France, if the way that the patient is contacting the clinic, is simplified to each stage of the process, then there will be time gained both for patients and for the medical system. In this

way, the French patient would not have to telephone more than twice, once for the medical center and the other for big hospital center. If the decisions will be immediately taken, the doctors or the concerned services will answer themselves at only two claims.

Table 1. Steps and total duration for a diagnosis

| Steps | Total duration spend (min) in Romania | Total duration spend (min) in France |
|--|---------------------------------------|--------------------------------------|
| 1. Call the generalist's assistant for an appointment | 3 min. | - |
| 2. Go to the appointment | 15 min. | - |
| 3. Wait | 13 min. | - |
| 4. See the generalist (consultation) | 15 min. | - |
| 5. Waiting for the assistant to write the medical receipt for the specialist | 10 min. | - |
| 6. Call the medical center for describing the issue (waiting added) | - | 5 min. |
| 7. Call the ORL section (waiting added) | 4 min. | 5 min. |
| 8. Go at the appointment | 10 min. | 10 min. |
| 9. Parking the car | 8 min. | 5 min. |
| 10. Go at the ORL reception | 3 min. | 2 min. |
| 11. Wait | 15 min. | 20 min. |
| 12. ORL Consultation | 15 min. | 20 min. |
| 13. Returning home (go to the car+exit parking+ride) | 20 min. | 17 min. |
| 14. Call the medical center for the appointment (waiting added) | - | 5 min. |
| 15. Going by car to the medical center | - | 20 min. |
| 16. Park the car | - | 5 min. |
| 17. Go to the appointment | - | 10 min. |
| 18. Wait | - | 30 min. |
| 19. Appointment to the generalist (for the treatment) | 15 min. | 30 min. |
| 20. Going home (go to the car+exit parking+ride) | 30 min. | 50 min. |
| 21. Go to the pharmacy for the medicines | 5 min. | 5 min. |
| 22. Call the ORL section (waiting added) | 4 min. | 5 min. |
| 23. Go at the appointment | 10 min. | 10 min. |
| 24. Wait | 15 min. | 20 min. |
| 25. ORL consultation to see if the problem has passed | 10 min. | 15 min. |
| Total time spend by the patient | 3h 40 min. | 4h 49 min. |
| Total time spend in the medical institution | 1h 30 min. | 2h 17 min. |

Source: adapted from Womack & Jones (2006), p.186

The figure 1 shows the total amount of each activity described in the above table. In this way, we can easily observe that similar activities, both from Romanian and for France patient, differ. For example, the French patient spends an amount of 4h 49 min. and a Romanian patient spends 3h 40min. Between these 2 systems there is a difference of almost 1h. Even if in France a patient has to accomplish more steps in order to arrive at the specialist, in Romania, the patient arrives easier at the specialist, but instead, the waiting time is bigger.

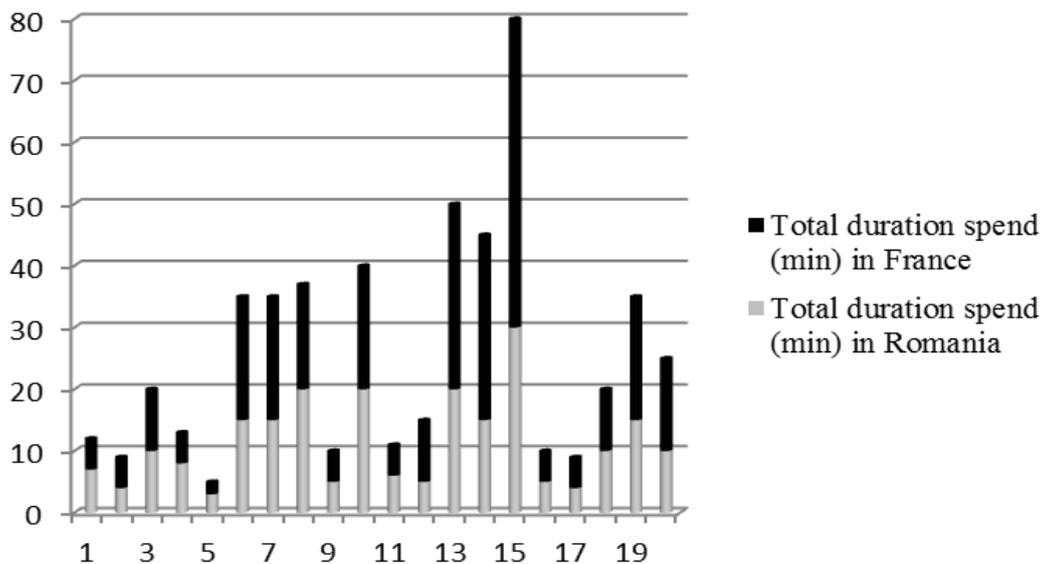


Figure 1. Total duration spend in France and in Romania

Source: authors

After seeing this example, we can easily affirm that both countries should emphasis on (Ohno, 1998):

- The client (put the customer first and every activity will be made according to his needs);
- The involvement of employees and physicians in identifying the problem, the choice for different solutions and the way these solutions are being implemented;
- The involvement of key stakeholders in the governance of the transformation projects: unions, heads of departments, doctors, etc;
- The quality and safety of care, continuous improvement;
- Delays' and costs' reduction, along with the elimination of non-value added activities, waste and accountability of each professional in relation with each of these themes;
- The work environment;
- A long term vision and philosophy.

7. CONCLUSION

Lean management represents a new form of work organization, which tends to implement in different sanitary systems around the world. It is presented as a way of rationalizing the sanitary institutions, while improving the quality of service offered to the client (or patient, in our case).

The idea of implementing *lean management* stands in the process of modifying the work organization with a strong emphasis on the standardization of work processes, along with increasing the reporting tasks deriving from the management quality, which in the end, will develop a delegation of responsibilities.

However, as highlighted by several studies, lean management seems to be perceived by the caregivers as a way of, above all, meeting the demands of the patient treated as a "client" in the adopted terminology. The resistances observed at caregivers may result from a lack of recognition of the specificity of the hospital environment during deployment of lean management.

As we have seen, both in Romanian as well as in French sanitary system there are gaps that need to be covered. There are major gaps like the waste of time (for patients and for doctors), waste of

financial resources, waste of products, and there are also minor gaps which tend to grow if someone does not start to eliminate them step by step.

The introduction of Lean method is not easy; it wasn't easy not even when it was first adopted at Toyota and will not be easy nor when it will be introduced in sanitary system. It will require time, practice, patience and resources. At the beginning, maybe it will be ignored but in the end, people will be able to see the real benefits brought by this method, not only just for them, but also for the patients and the whole sanitary institute.

ACKNOWLEDGMENT

This paper was co-financed from the European Social Fund, through the Sectorial Operational Programme Human Resources Development 2007-2013, Contract POSDRU/159/1.5/S/155463 "Supporting excellence in scientific interdisciplinary doctoral research in the economic, medical and socialfields", coordinator The Bucharest University of Economic Studies.

REFERENCES

- Caseau, Y. (2011). *Processus et entreprises 2.0*, Ed. Dunod, Paris.
- Dragoi, M. (2010). *Romanian health care system in European context*, Ed. ASE, Bucharest.
- Enachescu, D. (2004). *Strategia Nationala de Sanatate Publica, Ministerul Sanatatii*, Bucuresti, Ed. Herris.
- Friedman, L. (2000). *Advances in Health Care Management*, US, Ed. Emerald.
- Ohno, T. (1998). *Toyota Production System, Productivity*, Press Portland, Oregon, USA.
- Rouzaud, P. (2011). *Salaries, le Lean tisse sa toile et vous entoure...*, Ed. L'Harmattan, Paris.
- Womack, J. & Jones, D. (2006). *Le lean au service du client*, Ed. Vuilbert, Paris.