# MINISTRY OF NATIONAL EDUCATION AND SCIENTIFIC RESEARCH "1 DECEMBRIE 1918" UNIVERSITY OF ALBA IULIA

**Accounting Doctoral School** 

## **PhD Thesis**

(Summary)

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Alba Iulia 2016

### MINISTRY OF NATIONAL EDUCATION AND SCIENTIFIC RESEARCH "1 DECEMBRIE 1918" UNIVERSITY OF ALBA IULIA

**Accounting Doctoral School** 

# IMPLEMENTATION OF LEAN ACCOUNTING IN THE FOOTWEAR INDUSTRY

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Alba Iulia 2016















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#### I. The context of the research

The world economy has been through a crisis that was mainly caused by the management of the entities and by the inefficient use of resources. The entities were accustomed to produce as much as possible in order to reduce the cost of a produced unit which led to irrational consumption which exceeded the usual needs.

The economic crisis has determined a thinking system, changing the perception of the producers and consumers; it caused a complete transformation, both of entities, regarding the type of product and production system and of consumer, regarding the consumption. Thus, a passage is made from a production system where the product is "pushed" on the production flow – situation where the entities produce large quantities and only after that they are concerned with ensuring the placing on the market of the manufactured products, being the possibility that they satisfy both the actual and the future demand of potential clients – to a production system where the product is "pulled" on the production flow, when the entities produce only after they have the certainty that the manufactured products are wanted by the customers, in a rhythm established by the customer's demand.

The production system, which takes into consideration the fact that the resources are limited and that the most important thing is to produce only as much as the client needs, it's not new, it exists since the half of last century, being used by the car manufacturer Toyota. The crisis has done nothing but to reveal the need of such thinking in the actual economic conditions, the most eloquent example being Toyota itself, who's business, not only that it did not have to suffer because of the crisis but it even prospered.

The economic crisis has led to a complete transformation of the entities, regarding the type of product and production system, and of consumers, regarding the consumption.

The entities are now more than ever addicted to consumers and the success of their business depends, to a great extent, on the quality of the product, its cost and the delivery time (the availability of the product at the appropriate time). The consumers realized the advantage they have in the relationship with the producers so that they manifest a participatory and active role, requesting quality products, cheap and fast.

As a consequence the entities see themselves obliged to find the management system which allows them to be competitive, efficient in using the resources and at the lowest costs possible. Such a system is the Toyota production system, or, as it has recently been called, the Lean production system.

Even if there are numerous benefits of using the Lean accounting system, for the entity to be able to use it totally, the management accounting has to be adequate.

In this context, the management accounting has to manifest an active role in evaluating the activity of the entity, it can be limited to only calculate the cost of the products, and it has to also provide information which critically examines the existing situation and the future strategies. The acceleration of the competitiveness on the market empowers the management accounting, this being the most important source of economic information and the basis of the management accounting of the entity. From this perspective, we can certainly say that, in the current way of economic development, the management accounting has to provide all the information regarding the resource mobilization, their consumption and the foreshadowing future developments of the entity.

A series of authors<sup>1</sup> have identified deficiencies in making decisions when the traditional management accounting systems are used by the entities that apply Lean principles.

The difficulties found when applying the traditional accounting methods to the entities that implemented the Lean production system, have determined the apparition of a new management accounting system: Lean Accounting.

Due to the fact that this new management accounting system has become the focal point of the management of a Lean entity, and it provides timely decision and control information, Lean accounting represents the main pillar of the management accounting of an entity.

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<sup>&</sup>lt;sup>1</sup> Kaplan, R. S., "Measuring manufacturing performance: a new challenge for managerial accounting research", *The accounting review*, 58(4), 1983, pp. 686-705; Ahlström, P., Karlsson, C., "Change processes towards lean production: the role of the management accounting system", *International journal of operations & production management*, 16(11), 1996, pp. 42-56; Cooper, R., "Activity-based costing and the lean enterprise", *Journal of Cost Management* (Winter), 1996, pp. 6-14; Huntzinger, J., Kennedy, F. A., "Lean accounting: measuring and managing the value stream", *Journal of cost management*, 19(5), 2005, pp. 31-38; Huntzinger, J. R., Lean cost management: accounting for lean by establishing flow, J. Ross Publishing, San Francisco, 2007; Cunningham, J. E., Fiume, O. J., *Real numbers: Management accounting in a lean organization*, Managing Times Press, Durham, 2003; Maskell, B. H., Kennedy, F. A., "Why Do We Need Lean Accounting and How Does It Work?", *The Journal of Corporate Accounting & Finance*, (March/April), 2007, pp. 59-73; Arbulo Lopez, P. R., *La gestion de costes en lean manufacturing*, Netbiblo, La Coruña, 2007; Maskell, B., Baggaley, B., Grasso, L., *Practical Lean Accounting*, Second Edition, CRC Press, New York, 2012; McVay, G., Kennedy, F., Fullerton, R., *Accounting in the Lean Entreprise*, CRC Press, New York, 2013

#### II. The motivation of choosing the researched theme

The Romanian footwear industry represents one of the most competitive activities of the Romanian industry, being in the top of world footwear exporters.

The phenomenon of globalization has determined a continuous growth of the competitiveness, which put the emphasis on the value and the cost of the product, more precisely, on the efficiency of using the resources. So, it is needed an analysis of the value stream cost inside the entity in order to identify the internal opportunities based on which will be obtained external competitive advantages.

The principles of the economic rationality have to be applied to the management accounting too, which means to obtain as much as possible with as few resources as possible. In other words, for obtaining pertinent information it is needed to reduce its volume and rationalize its flow, without affecting the quality of the information provided. If in the case of financial accounting it can be intervened less, being regulated by fixed, rigid and mandatory rules, in the case of the management accounting it can easily intervene so that it is adjusted to the needs of the entity.

The aim of the management accounting is, in the first place, to provide information for making the decisions. There is no need to present thick data and reports which are not relevant and cannot be used in the future. Also, once the objectives are fixed, the manager has to actively intervene to correct any deficiencies and disorders.

The management accounting does not have to constitute only an exercise of identifying the existing deviations between planning and reality, but it has to provide the instruments needed to gradually correct the deviations, if any. The utility of the comparisons between forecasted and achieved are beneficial only when they are used to quickly intervene in order to achieve the objectives fixed.

The entity's competitive ability is ensured by making the best decisions which ensure the success of the business. The management accounting doesn't have to show only what happened but also what is going to happen, and this can be done with Lean accounting.

The implementation of Lean Accounting involves a correct basis for the present decisions and a way of approaching the future of the entity, the identification of existing alternatives and of the benefits of the chosen path.

Lean Accounting is a multi-focal analysis of the activity of the entity which expresses information in an accessible language and which serve to making the adequate decisions.

Lean Accounting transforms the data into information and reduces the uncertainty of the decisions.

Even though in the international specialized literature the concept of Lean Accounting is getting more and more present and disputed, in Romania there are few approaches on this subject. That is why we consider topical the study of applying the Lean accounting in a domain in which our country is present at a global level: the Romanian footwear industry.

#### III. The aims of the research

The aim of the phd thesis is to provide an overall image of what it should represent the basis considerations for the entity's management when evaluating the possibility of implementing Lean accounting within a company from the footwear industry.

Even if the manager is not familiarized with Lean practices, techniques and instruments, the work provides the information specific to Lean thinking, which could be adapted to any entity from the footwear industry and not only.

The phd thesis provides a general image of Lean ideology as a model of thinking, presenting theoretical information regarding the Lean production system, the analysis of the Romanian footwear industry, the opportunities of improving the management accounting for the entities that have implemented Lean production system, but also a case study regarding the implementation of Lean accounting in the Romanian footwear industry.

In accordance with the aim of the research, the objectives established are:

O1: The analysis of the Lean production system as a starting point for applying Lean accounting;

O2: The analysis of the evolution of Romanian footwear industry in order to establish future development perspectives;

O3: Determining the improvement possibilities of the management accounting for the entities that have implemented Lean production system;

O4: Identifying the possibilities of implementing and the implementation of Lean accounting for the entities from the Romanian footwear industry.

For each of the 4 main objectives, we have established secondary aims, as it follows:

#### • for **O1**:

✓ the context of the emergence of Lean production system;

- ✓ the current stage of knowledge regarding the Lean production system;
- ✓ the deepening of the terms related to the practices, techniques and instruments of Lean production system;
- ✓ performing a comprehensive study of Lean concepts in the foreign and Romanian specialized literature;
- ✓ Lean investigating the relation between the social responsibility and the management system based on Lean thinking.

#### • for **O2**:

- ✓ the analysis of the evolution of entities from the Romanian footwear industry;
- ✓ the analysis of the evolution of external commerce in Romanian footwear industry;
- ✓ the analysis of the production of the Romanian footwear industry;
- ✓ the analysis of the competitiveness of the Romanian footwear industry;
- ✓ the SWOT analysis of the Romanian footwear industry;
- ✓ identifying the factors that influence the turnover in the Romanian footwear industry;
- ✓ the identification of the factors that influence the direct exports in the Romanian footwear industry;
- ✓ the identification of the main change trends that the entities from the footwear industry have to take into consideration for future business strategy.

#### • for **O3**:

- ✓ the identification of the main inconveniences of the traditional methods of cost calculation for the entities that have implemented Lean production system;
- ✓ the particularization of target cost as a constituent of Lean accounting;
- ✓ the identification of the main advantages and disadvantages of the target cost;
- ✓ performing a comparative analysis between the target cost and the calculated cost by classic calculation methods;

- ✓ performing a comparative analysis between the target cost and the standard cost;
- ✓ the identification of the functions of target cost;
- ✓ the revealing of the main aspects of Lean accounting;
- ✓ the determination of a registration model in the management accounting of operations, for an entity that applies the Lean production system.

#### • for **O4**:

- ✓ the investigation of the connections between the entity's management, the practices, the techniques and instruments of Lean and Lean accounting, for the entities from the Romanian footwear industry;
- ✓ the application of Lean accounting in an entity from the Romanian footwear industry;
- ✓ the analysis of the main aspects of managerial decisions from the perspective of Lean approach within the management accounting.

#### IV. Hypotheses and questions of the research

In order to respond to the objectives fixed, the phd thesis launches for validation the following research hypotheses:

- ✓ The relationship between the mentality of the entity's management and the implementation of the Lean production system is direct and positive.
- ✓ The relationship between the Lean production system and the empowering of employees is direct and positive.
- ✓ The relationship between the Lean production system and the non-financial performance is direct an positive.
- ✓ The relationship between the Lean production system and the visual management is direct and positive.
- ✓ The relationship between the Lean production system and the collaboration with the exterior is direct and positive.

- ✓ The relationship between the empowering of the employees and Lean accounting is direct and positive.
- ✓ The relationship between the non-financial performance and Lean accounting is direct and positive.
- ✓ The relationship between the visual management and Lean accounting is direct and positive.
- ✓ The relationship between the collaboration with the exterior and Lean accounting is direct and positive.

Also, based on some empirical studies we launch the following research questions:

- What are the factors that influence the turnover in the Romanian footwear industry?
- What are the factors that influence the direct exports in the Romanian footwear industry?

#### V. The research methodology

The phd thesis represents an approach of the newest concept worldwide, in management accounting: the Lean accounting.

The work aims to clarify the general understanding of Lean accounting from a conceptual and practical point of view, helping to the examination of the role that it has in the consolidation of managerial decisions.

Also, the work explores the theoretical understanding framework of Lean philosophy, presents a conceptual paradigm for applying Lean accounting and provides a practical approach of the implementation of Lean accounting, offering a solid basis for future research.

The scientific nature of the thesis is given by the observance of the three axes of the research:

- *the methodological axis*, through the observance of a group of scientific techniques and methods within the performed research;
- *the theoretical axis*, consisting in a revision of the specialized literature specific to the topic researched;

• *the empirical axis*, by collecting the data and the interpretation of the results obtained.

As general method of knowledge, we used the hypothetical-deductive research by studying the specialized literature based on which we have formulated the hypotheses of the research, verifying their validity by observing and measuring.

For the consolidation of the information obtained when reviewing the specialized literature, the research was focused on the case study, aiming to ensure the validity of the theoretical information obtained.

The research activity is inductive, by the conceptualization of some practical aspects, and deductive, by putting into practice some of the existing theoretical elements.

For achieving the objectives fixed, the work was based on a descriptive research, but also on an explanatory and prescriptive approach, during which we have explained theories, concepts, techniques, practices and instruments, also providing future evolution trends.

For the realization of the research we have used the following techniques and procedures:

- the review of the specialized literature and the documentation regarding the previous research;
- data collection techniques: official statistics, reports, studies and occasional or periodical synthesis;
- statistical grouping, the modality of presenting the data by statistical tables;
- classification/ordering, putting the data in a certain order using a well established criterion;
- the comparison, reporting the measure that is to be measured to the size of another indicator;
- structured observation ;
- demonstrative observation;
- problem solving.

#### VI. The content of the phd thesis

After the objectives, hypotheses and research methodology have been established, the scheme of the work was shaped and the thesis was split into four chapters, depending on objectives fixed.

**Chapter 1** focuses on reviewing the specialized literature regarding the Lean production system.

Ever since their emergence, the first production systems have continuously evolved and based on this permanent progress the Lean production system appeared. We can define three production systems that influenced the manufacturing methods used. Their defining characteristics are presented in *the context of Lean production system emergence*.

As any other independent domain, the Lean production system guides itself after a series of generally accepted and consistent rules, which are a starting point for this new production system. The specialized literature presents several approaches of the fundamental elements of Lean production system, generically called: Lean principles and the most important ones are presented and analyzed comparatively. We consider that the principles formulated by Womack and Jones are the most relevant, because the others are to be found, in one way or another, among these ones or they appear as a result of their application.

In order to facilitate the understanding of Lean production system we have presented the main *practices*, *techniques and instruments of Lean production system*. The presentation is not too extended because we considered that the multitude of extra subjects will make the work more complex and it would disperse its purpose. Also, we have defined the Lean production system as being a set of Lean practices, techniques and instruments, used by the entity in an integrated manner and continuously improved, with the help of which losses and useless activities are eliminated, the aim being that of obtaining the satisfaction of the clients by quickly delivering high quality products, at competitive prices.

The justification of choosing a production system from multiple existing alternatives is given by the results obtained after applying it. The Lean production has generated a high interest because of the good results obtained by the entities which have implemented it; first the car manufacturer Toyota and then multiple entities from different industrial sectors and countries. The implementation of this production system has a major impact on the performances of the entity and the specialized literature makes several appreciations regarding the benefits of Lean production, the most important ones being presented within the work.

The acceleration of the globalization of businesses brought the need of social responsibility of the entities that operate on the global market and the values that must be respected in their relationship with the society. Today, more than ever, the insurance of the customer's satisfaction is the main goal of any entity. This satisfaction does not depend only on the quality of products and services provided but also on the activities performed by the

entity in order to obtain them. Therefore, the social responsibility of entities becomes and indispensable element in the development of any efficient management strategy. That is why we considered necessary that we treat *the Lean concept in the context of globalization* in a research regarding the similitude between the Lean philosophy and the social responsibility of entities.

**Chapter 2** presents a retrospective, current and predictive analysis of the Romanian footwear industry.

The Romanian footwear industry is in the top of world footwear exporters, most of the production having secured dissolution on the market of European Union countries. In order to understand this situation, we have presented *the main indicators of Romanian footwear industry*, emphasizing the evolution of productions, employees and external commerce.

The exports of the Romanian footwear industry are designated to the European Union and that is why we have highlighted *the competitiveness of the Romanian footwear industry in European context* by an analysis of its situation in comparison with the main competitors. For this, we used the public data from the Eurostat statistics, for the period 2008-2013, based on which we made a top of the most important ten countries from the point of view of the turnover realized in the footwear industry.

In order to identify some future action strategies, we considered that it is needed to perform an x-ray of the Romanian footwear industry. The projection of a global vision was made based on the analysis performed earlier and on the aspects mentioned within this chapter. Based on the information collected, we performed *the SWOT analysis of the Romanian footwear industry*.

The steps regarding the development of the Romanian footwear industry have to take into consideration the future perspectives. In this context we performed two statistical studies based on which we were able to issue a pertinent conclusion regarding the factors of influence of the turnover and direct exports. We consider that this is the basis for orienting the Romanian footwear industry towards the Lean production system, taking into consideration the fact that it is a great consumer of expenses. This is the reason why the work presents two empirical studies based on some multiple econometrical analyses, the analysis of that factors that influence the turnover and the analysis of the factors that influence the direct exports of the Romanian footwear industry.

In order to be competitive, the Romanian entities from the footwear industry have to take into consideration the fast changes that take place within the footwear market. The maintenance the competitiveness is influenced by their predictive ability, the preoccupation to optimize the production depending on the future trends that will influence the structure of the demand. Within this chapter we present *the main changing trends in the footwear industry*, trends that every entity should take into consideration when drawing future developing strategies.

**Chapter 3** focuses on Lean accounting and on the main arguments for its implementation within an entity that uses Lean principles.

The management accounting has continuously evolved and in order to be able to adapt the methods of the management accounting to the changes of the environment, we have to study the causes of accounting changes and their effects on entities. In this regards, we presented a short *history of the evolution of the calculation of costs and of the management accounting*. From historical point of view, the calculation of costs precedes the management accounting, representing the manifestation of the main function of the management accounting. Even though there are multiple opinions in regards to the evolution of cost calculation and of management accounting, they don't match with the exact time of the main stages in their history. In our opinion, taking into consideration the importance of methods developed and for a better understanding of the cost calculation and management accounting changes, their evolution could be delimited into seven stages, which are presented within this chapter.

Most entities continue to use methods of cost calculation that have been designed for entities with mass production systems, in order to take advantage of the economies that have been made when the labor force and machinery were used to the maximum. In the current conjuncture this paradigm is not available anymore, most of entities being in a continuous competition, modifying the production speed and depending on the instability of demand. So, the entities apply the Lean thinking principles, but they don't adapt the methods of cost management. The traditional cost calculation methods have been designed mainly to satisfy the requests of financial accounting in what regards the evaluation of stocks and therefore they are not adequate for measuring the performance or for the operational control. Starting from the conceptual boundaries between the traditional cost calculation methods and Lean

philosophy, we presented the limits of the traditional cost calculation methods for an entity that applies Lean production system.

In the current context, due to the recent economic crisis, the entities manifest an increased concern for maintaining and growing their competitiveness on the market. This can be done with the help of target cost which involves the application of some strategic processes to minimize the cost of products by the optimization of internal and external processes so that they obtain products that match the needs of the clients at the lowest cost possible and at the most stringent levels of quality and functionality, maximizing this way the planned benefits. We have presented different aspects regarding the *advantages and disadvantages of target cost, target cost versus traditional cost, target cost versus standard cost* and *the functions of target cost*, in order to highlight *the target cost – a junction element between the traditional cost calculation methods and Lean accounting*.

For the results obtained to be the expected ones, the entities that have adopted the Lean production system must apply the Lean thinking model to all levels, including the accounting activity. Lean accounting is in concordance with all Lean philosophy and its success and precision depend on applying the Lean instruments, the cost of the product being obtained by the value stream. Thus, within this chapter, we presented the main aspects of *Lean accounting*, the evaluation of the production, the cost management, the evaluation of performances, the analysis of the cost of value stream and the benefits of Lean accounting.

The technological development, the new production systems, the change of the mentality of consumers and producers are only some arguments for aligning the accounting to the current developing demands. In what regards the expression of management accounting into accounting records, we subscribe to it, because of the versatile functionality that allows the transition from detailed analysis to expressive synthesis. So, taking into consideration the principles and instruments of Lean philosophy we propose *the adjustment of the management accounting to the demands of Lean accounting*, by a modality of adjustment of The Romanian General Chart of Accounts, class 9.

**Chapter 4** is the core of the implementation of Lean accounting within the entities from the Romanian footwear industry.

As it was shown earlier in the work, the main condition to implement Lean accounting within an entity is that the entity functions in agreement with Lean philosophy, meaning that it has to use Lean practices, techniques and instruments in its activity. Under this reasoning,

based on an empirical study on the Romanian footwear industry, we determined to what extent the position of the entity's manager influences the implementation of Lean philosophy, the level of use of Lean practices, techniques and instruments and the correlation between them, but also the way in which their high level determines the use of Lean accounting within the entity. As a result, we have highlighted the main conceptual and practical difficulties regarding the implementation of Lean accounting in the entities from the Romanian footwear industry.

We tested the conclusions that emerged from Chapter 3 regarding the advantages of using Lean accounting, by a case study applied on an entity where the Lean production system was implemented, thus realizing the empirical approach of Lean accounting from the perspective of the implications for the entities from the footwear industry.

Ensuring the success of the entity depends on the correctness of managerial decisions. The foundation of these decisions has to be based on reasoning that takes into consideration all factors that influence them. In this regard, within this chapter we make a series of considerations regarding the Lean approach in the management accounting being presented different situations of using Lean accounting in supporting the managerial decisions in regards to the aspects of the managerial decisions on the production structure, deciding on an additional order, the decision to buy or to manufacture and aspects regarding the influence of stocks on the indicators of the profit.

**Chapter 5** represents a synthesis of the thesis, highlighting the main emerging conclusions, author's contribution to the research but also possible limitations and future research directions.

#### VII. Conclusions emerged from the research

The high level of competition on the market leads to the binding that the managerial decisions are quick and correct; any hesitation or error could have major negative effects. So, more than ever, it s very important that the information based on which the decisions are made, to be accurate and provided in a timely manner in order to substantiate the quality of the managerial decision. Due to the fact that the traditional calculation methods are late and sometimes too complex, the viable solution is to use Lean accounting.

The implementation of Lean thinking in an entity gives the customer the possibility to have the product or the service requested, in the quantity requested, to the location requested, in time at the lowest price. Eliminating waste will be the most important concern of the entity and the continuous improvement will be the principle based on which the entity will guide its activity.

In contrast with the traditional cost calculation methods, which are based on the production in large quantities, Lean accounting is built on the ability of reaction and the possibilities of saving.

In order to be more competitive abroad, the entity has to be competitive in its country. The internal competitiveness refers to the entity's ability to obtain maximum yield regarding the use of resources (material, human, capital, ideas etc.) and the production processes. The internal competitiveness implies that the entity concurs with itself and implements continuous improvement actions.

Currently, when more than ever the resources have to be used with caution and responsibility, Lean thinking provides a new basis to the social responsibility of the entity. An entity that has implemented Lean philosophy in its activity, has voluntarily implemented a model of social responsibility in what concerns the use of resources but also in what concerns the environmental protection.

In order to answer to the current economic conditions, more entities have adopted a production system based on Lean thinking. The entities that have implemented Lean production system noticed that the cost management methods they used didn't match Lean concept, being considered inappropriate and even hostile to Lean thinking. On this recital, a new method of management accounting emerged called Lean accounting which fully expresses Lean thinking and practice and has undisputable advantages.

The research highlighted the need of implementing Lean concept within an entity, based on the following aspects:

- ➤ The need of implementing a Lean production system, due to current realities: highly fragmented markets with demands for divers products in small quantities; stiff competition; fixed or dropping prices; fast technological changes; high level of capital costs; capable workers that request higher involvement.
- ➤ The great challenge of the 21<sup>st</sup> century is the reduction of costs and the ability to produce more using less less time, space, human effort, machinery, materials etc. simultaneously with satisfying the needs of the clients;

- ➤ In most of the economic activities the price is fixed (or dropping). The buyers are more powerful than ever, they have a multitude of options, unlimited access to information; they request excellent quality at an affordable price and the quickest possible delivery of the product. This can be done only by a Lean approach its aim being that of focusing on the client for delivering the best products, at the best price as soon as possible;
- The new ideas are reactions to concrete problems. The economic crisis has revealed, more than ever, the need of implementing Lean thinking within the entities. Even though some entities have implemented Lean production system, the cost management system didn't change. In order to obtain maximum results, Lean thinking has to be applied to all activities of an entity, especially to the accounting activity;
- The cost management systems used by the entities involve significant efforts for a detailed reporting of costs. Lean accounting simplifies a lot the process itself, reduces the time and effort needed to collect the data, transforming them into valuable information. Lean accounting presents the information easy to understand, in a simple way (but not simplistic). We have to mention that this accounting system can be applied only to an entity which implemented Lean production, the way being long and difficult but the benefits are as expected.

If ten years ago the researchers were preoccupied with the Lean production system; now the emphasis is put on the implementation of Lean accounting within the accounting activities of the entities.

The advantages of implementing Lean within an entity are remarkable, being highlighted in the specialized literature, as it can be seen in the work. The central elements of Lean philosophy are the elimination of loss and the correlation of the quantity of manufactured products to the request of the customers. The implementation of Lean involves the work on small quantity lots, the reduction of stocks to the minimum possible, the use of quick changing production systems, on-time delivery of materials by the suppliers and the reduction of order-production-delivery interval.

Lean accounting is a new method to make decisions depending on the available capacity and the existing demand for the products of the entity, being an adequate method to identify the benefits of continuous improving.

In order to keep the competitiveness of the Romanian footwear industry, the following measures need to be taken:

- tight coordination with the clients and suppliers;
- implementation of new technologies;
- developing new products;
- the increase of the degree of automation;
- the collaboration with the other entities from the footwear industry;
- simple and clear processes to maximize the efficiency;
- decision making has to take into consideration the economic, environmental and social implications;
- the manufacturing processes to be transformed into adaptable processes that automatically answer to change.

Even if the implementation of these measures is a long process and the transformation represents a medium and long term objective, the entities must have in the center of their activities the concern for continuous improvement.

All these involve the reduction of uncertainty regarding the future of the entity and imply a management accounting adapted to the times we are living in.

We consider that is time that the management accounting gets aligned to 21<sup>st</sup> century so that it achieves the aims with less effort and with lower costs, as Lean accounting does it.

In conclusion, we can say that, within the research done, we limited only to the aspects considered to have an important impact on the topic of interest. Of course that all these aspects could have been more and their choice is subjective; that is why we consider that this work represents a starting point for future research, where we will approach other aspects of Lean accounting, not researched yet in the Romanian specialized literature.

#### **VIII. Own contributions**

The specialized literature in the management accounting domain has been enriched, relatively recent, with a new concept, that of Lean accounting. Even if in the world there are multiple approaches of Lean accounting, in Romania there are only a few and they are mostly theoretical studies. The work presents the new concept with the aim of understanding the need to align the Romanian research to actual trends.

The Romanian footwear industry is a successful domain, having continuity regarding the results obtained and which demonstrates its competitiveness by the fact that it is in the top of world's footwear exporters. For characterizing the Romanian footwear industry, the work presents an evolution of the main indicators in the domain, analyzing their factors of influence.

The management accounting has to provide to the management relevant information for the formulation, implementation and control of the strategy of the entity. From this perspective, the work approaches different situations in which we emphasis the advantage of using Lean accounting when making managerial decisions.

Summarizing, the main theoretical and practical contributions made through this study are the following:

#### a) theoretical contributions:

- ✓ the presentation of the context of the emergence of Lean production system;
- ✓ the presentation of the current state of knowledge regarding the Lean production system;
- ✓ the deepening of the terms regarding the practices, techniques and instruments of Lean production system;
- ✓ the identification of the similitude between the concept of social responsibility and the management system based on Lean thinking;
- ✓ the identification of the main change trends that have to be taken into consideration by the entities from the footwear industry when designing future business strategies;
- ✓ the synthesizing of the main inconvenient of the traditional cost systems for an entity which has implemented the Lean production system;
- ✓ the particularization of target cost, as a constituent element of Lean accounting;
- ✓ the identification of the main advantages and disadvantages of the target cost;
- ✓ the comparative analysis between the target cost and the traditional cost;
- ✓ the comparative analysis between the target cost and standard cost;
- ✓ the identification of the functions of the target cost;

- ✓ the synthesizing of the main aspects of Lean accounting;
- ✓ the presentation of a recording model in the management accounting of accounting operations for an entity which applies Lean philosophy.

#### b) empirical contributions:

- ✓ a x-ray of the Lean concepts, to transversal and longitudinal level, in the foreign and Romanian literature;
- ✓ an analysis regarding the characteristics of the Romanian footwear industry;
- ✓ an analysis regarding the competitiveness of the Romanian footwear industry in the European Union;
- ✓ a SWOT analysis of the Romanian footwear industry;
- ✓ the study, from statistical point of view, of the connection between the turnover and the number of employees, the salary expenses, the net investments realized and the number of entities in the Romanian footwear industry;
- ✓ the study, from statistical point of view, of the connection between the direct exports and the number of employees, the salary expenses, the net investments realized and the average gross salary in the Romanian footwear industry;
- ✓ the use of the technique of modeling structural equations in the investigation of the connections between the management of the entity, the Lean practices, techniques and instruments and Lean accounting in the entities from the Romanian footwear industry;
- ✓ a case study regarding the implementation of Lean accounting within and entity from the Romanian footwear industry, which uses the Lean production system;
- ✓ a case study regarding the implications of the managerial decisions on the structure of the production from the perspective of Lean approach within the management accounting;
- ✓ a case study regarding the implications of the managerial decisions on an additional order from the perspective of Lean approach within the management accounting;

- ✓ a case study regarding the implications of the managerial decisions if to buy or to manufacture from the perspective of Lean approach within the management accounting;
- ✓ a case study regarding the implications of the managerial decisions regarding the influence of stocks the on profit indicators from the perspective of Lean approach within the management accounting.

#### IX. Perspectives of the research

The current business environment is characterized by an increasing competitiveness in the world, the rapid pace of technological discoveries, safety and environmental problems, the need of innovative high quality products at an affordable price etc.

The survival and the development of an entity, in such a challenging environment, depend on its ability to answer to the demands from the market, meaning that it has to satisfy the requests of the clients regarding quality and price.

The management accounting has continuously evolved, the most recent form of adaptation to the current condition being Lean accounting. For an entity to be able to implement Lean accounting in its activities, it firstly has to function after Lean principles. As only part of the entities got aligned to the new trends, there is a method recommended to all entities, as an answer to the change of the business environment: the target cost, a method of strategic cost management helping to consolidate the competitiveness of an entity that faces the current economic challenges.

The success factors of the target cost are the quality, the innovation, the time and the cost, factors that are optimized, especially in the developing and designing stage of the product by involving a multifunctional team and the members of the value chain, especially the suppliers.

Taking into consideration the current economic stage and the specific conditions, we recommend that the entities from Romania use the target cost in order to ensure their competitiveness on the market, the main advantage being the orientation towards the client and his needs, being known that nowadays the request is the one that triggers the production and not the other way round.

In what concerns the case study regarding the applicability of Lean accounting, it can be seen as a limitation of the research the fact that the validation of the framework of thinking is made by a single case study, a large sample being needed for the formulation and evaluation of a rigorous hypothesis. The case study tries to establish a forecast of future results when implementing Lean accounting; a limitation from this point of view could be the fact that application of the framework of thinking regarding the decision making based on Lean accounting, presented in the case study, might be biased.

We list the following future research directions:

- ✓ the relationships between the management accounting used and the level of uncertainty, the size of the company, the nationality of the investors, the level of the turnover, the level of the profit, the fierce competition etc.;
- ✓ the evaluation of the knowledge level of Lean accounting in the Romanian footwear industry;
- ✓ the level of adoption of modern accounting techniques and the way they affect the development of the entities;
- ✓ the evaluation of the factors that prevent and/or improve the development of management accounting in the Romanian footwear industry;
- ✓ studies regarding the perception on Lean accounting within the entities that use it or have used it in the past;
- ✓ the identification of the stimulating factors for the entities that have implemented Lean accounting (internal and external factors).

We hope to tackle on all these research directions in a future study, thus helping to the knowledge of the benefits of Lean accounting and to the understanding of its correct implementation.

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#### Legislation and site

- 1. \*\*\*, Legea contabilității nr. 82/1991, modificată și completată prin legea nr. 121/2015;
- 2. \*\*\*, Ordinul MFP nr. 1826/2003 pentru aprobarea Precizărilor privind unele măsuri referitoare la organizarea și conducerea contabilității de gestiune;
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