

**In the Proceeding of  
“International Conference on Business Excellence” (ICBE) 2014**

*October 2014 - Bucharest*

**THE WASTES IN THE LEAN MARKETING. A PROPOSED  
TAXONOMY AND AN EXPLANATORY STUDY ON ITALIAN SMEs**

**Andrea PAYARO, Ph.D.**

*P&P Consulting & Services  
Via Aldo Moro 37. I-35020 Legnaro PD ITALY  
e-mail: andrea@payaro.it*

**Anna Rita PAPA**

*P&P Consulting & Services  
Via Aldo Moro 37. I-35020 Legnaro PD ITALY  
e-mail: annaritapapa@payaro.it*

**Abstract.** *The lean management is doing more with less by employing “lean thinking.” It involves never ending efforts to eliminate or reduce wastes in design, manufacturing, distribution, and customer service processes. This paper aims to develop a tools that help companies to identify the wastes present in their strategies and give a priority to different issues identified. Moreover this study, by an explanatory study, aims to measure the results of the application of this tools in the marketing strategies in a sample of 12 SMEs. The main results are that the companies involved in the project have a positive verdict on the model. In particular, the companies say that the model helps to identify more quickly which tools use to improve the level of customer satisfaction. It is easy to use and it can be used by all employees. Above all the model increases the level of knowledge of customers and their needs.*

**Keywords:** Lean Marketing, Wastes, Small and Medium-Sized Enterprises

## **1. Introduction to lean thinking**

Competitive pressure, and the necessity to respond faster to an increasingly global and changing market, have brought about the need for a new approach to company flexibility. As defined in numerous studies published in literature, flexibility reflects the capacity of a system to respond adequately and quickly to changes that are either within or outside of a system. (Upton, 1994; Gupta and Buzacott, 1996). Authors such as Naylor have underlined the need for businesses to develop strategies that make them more agile and lean, in other words free of all non-value adding activities that are identified as waste (Naylor et al., 1997).

Ever since the first practical application at Toyota, numerous studies have been published on how these methods can be used not only in a manufacturing context, but also in design and innovation (Chen and Taylor, 2009). Until now, however, there are only few references for assessing the applicability of the basic concepts of lean thinking to marketing. Following analysis of the literature, a model is proposed here for framing the concept of waste (muda) - as defined in lean philosophy, and scientifically recognized in the fields of manufacturing, design and innovation - within a marketing context.

Lean manufacturing aims to reducing and where possible eliminating waste (muda), irregularity of processes (mura) and work that is too difficult (muri) (Ohno, 1988). The basic elements of lean are very simple, and involve providing customers the highest service or product quality at the lowest possible cost, by eliminating or reducing everything that does not add value (Liker, 2004; Womack et al., 1990) . Some authors claim that lean manufacturing has given rise to a new management paradigm, resulting in the proposal of alternative ways to manage variability and complexity based on completely different principles from those that make up more rigid Western models. “Lean should be seen as a direction, rather than as a state to be reached after a certain time”; lean is thus a philosophy (Bhasin and Burcher, 2006). As the more people who buy into the belief, the more improvements are feasible and the implementation process is facilitated (Karlson and Ahlstrom, 1996).

## **2. Lean in marketing context**

Ohno claims that the system applied by Toyota is not simply a “production system”, but rather an entire business philosophy. Numerous applications of lean philosophy in various company departments are described in literature: lean manufacturing, lean product development (Mascitelli, 2007), lean accounting (Maskell et al., 2011; Van Der Merwe and Thomson, 2007), lean development (Schipper and Swets, 2009; Ward, 2007). Nonetheless, there are no many studies on the application of lean concepts to marketing. Through examination of the literature, and starting from the model of 7 wastes used in all the contexts, this paper intends to provide one possible model for apply the concept of waste to marketing activities or procedures that can be considered as non-value adding.

Lowry (2003), for example, highlights how some statistics show that marketing costs account for between 40% and 60% of a good’s selling price. In response to this claim, Lowry focuses on the need to manage marketing activities so as to make them more efficient. This raises the question: “If we can implement a waste reduction process in production, why can’t we apply a similar process to marketing?”.

In his article, Lowry states the need to discuss and analyse “Lean Marketing”, creating parallels between the five principles of lean thinking and marketing mix. Jenkins and Gregory (2003), on the other hand, propose a different classification of waste concentrated on the costs of communication and promotion, while they do not look at the costs of new product development or distribution.

## **3. Wastes in lean marketing: a proposed model**

In this paper we propose an application of the Ohno’s model and his seven wastes in the marketing field. In accord with Gibson et al (2012) we extend Ohno’s wastes to include an eight one. In Liker’s (2004) famous book centered on what he calls The Toyota Way, unused employee creativity was presented as an eight waste with the purpose of capturing soft aspects like lost ideas, unused employee skills, failure to engage in learning opportunities or not listening to other people’s opinions.

Table 1: Wastes considered within a marketing context

<b>Muda by Ohno</b>	<b>Wastes in marketing</b>
Over-production	Information, materials or functions that exceed what is actually needed.
Inventory	No or incorrect demand forecasting. Excess unsold products or stockouts.
Waiting	Service provision or distribution times exceed what the customer requires.
Over-processing	Complex procedures in delivering value to customers.
Transportation	Logistics systems are poorly integrated and inefficient
Motion	Products or services have low levels of usability and accessibility
Defects	Defects create costs of non-quality
Talent and Creativity	Failure to use people's talents, skills and capabilities.

### **1 Over-production**

Over-production occurs when there is a deviation between what an organisation provides in terms of documents, information, materials or functions, and what the market effectively needs. A function introduced on an electronic device that is not used or not needed is waste, because that function is the result of a research and development process, and required a team of technical personnel to design and implement, thus generating unnecessary costs. If there is no demand for a function, document or material included with a device, then it will never become a distinctive feature to help sway customers in the decision-making process.

### **2 Inventory**

Inventory represents the result of excess production compared to actual market demand. Sales forecasts are always hard to produce, above all in very dynamic and rapidly changing economies. If not managed suitably, inventory becomes accumulated unsold material and thus an extra cost for the company. It is very hard to make exactly the right quantity to meet market demand, above all in industries where development times are very long or where products need to be developed prior to demand, as in the case of consumer goods. Excess inventory of food products, for example, often becomes waste when reaching the sell-by date or when the product is otherwise considered unsaleable. Specific production models (example Assembly to Order, Make to Order, and modularity) reduce the risk of unsold material (Baldwin and Clark, 1997).

### **3 Waiting**

Waiting is the period of time that elapses before customers receive the desired value. If unplanned, waiting is usually viewed as waste. From the customer's viewpoint, this period is never seen as being pleasant. Waiting rooms or waiting lists generally arouse negative thoughts or feelings. Moreover, nowadays time is considered to be a precious resource, so waiting is seen as a "waste of time". How time is perceived, in addition to how long actually elapses, is a fundamental element in providing a service or selling goods to a customer (Bateson, 1983).

## **4 Transportation**

Transportation of material within a supply chain does not create value, as the product is not processed in any way; nonetheless, transportation is essential in making products available to customers. Continuously analyzing and examining material flows from the source of raw materials to the place of consumption, above all in a global economy, can help reduce this form of waste. Cost reductions can be achieved by action in different areas and not only by reducing inventory by streamlining purchasing procedures or provide and request forecasts (Holmström et al., 2002).

## **5 Over-processing**

This occurs when complex solutions are chosen over simpler ones, in relation to any process. In practice, it means more resources are used than needed. This type of waste is hard to identify and eliminate. Lean principles can be applied to the marketing planning process, making sure the right resources are used, without unnecessary waste. Long-term market research, for example, conducted without truly understanding customers and their desires, can lead to solutions being developed that are quite different from those that are needed (Norman, 1998).

## **6 Motion**

Every time a person moves their body as part of an action or task that does not directly add value to or perceive value from a product, such motion is considered unproductive. Take for example an ecommerce website: a purchase procedure that requires several “clicks” before completing the transaction can be considered wasteful, as it creates unnecessary motion or may even annoy the customer the extent where they decide to abandon the procedure (Van den Poel and Buckinx, 2005). This concept is referred to as usability and accessibility. ISO 9241-171 defines accessibility as the usability of a system by the largest possible range of users.

## **7 Defects**

Defects in a product are never viewed by consumers as being positive. Defects are a form of waste, and occur when the system (product, service or environment) does not meet the specified quality conditions.

The costs of non-quality are not easy to forecast nor determine directly, and are often completely or partly underestimated, above all without systematic assessment of business risks. It is interesting to examine the concept of cost of quality as summarized by Crosby (1980). The author states that: “Quality is free. It’s not a gift, but it is free. What costs money are the ‘unquality’ things”.

## **8 Talent and Creativity**

The main cost of the waste of talent within the organization is in time wasted to make improvements and meet changing customer requirements (Gibbson et al., 2012). Company will be far slower at making improvements and solving problems if it relies only on its “experts” to come up with the ideas, whilst engineers, supervisors and managers may be highly skilled they are small in number compared to other employees. Liker (2004) says:

"Unused employee creativity is a waste. Losing time, ideas, skills, improvements, and learning opportunities by not engaging or listening to your employees".

### 3. The methodology

The research was carried out on a sample of twelve Italian SMEs localized in the north east area. This geographical area is considered one of the most productive in the country and it's characterized by a high concentration of small and medium-sized enterprises (over 99%). One of the objectives of this research is to test the model applicability on different industries, indeed the companies that belong to this project have different business, like manufacture and mining equipment, manufacture of wood stoves, and cars dealing. The companies were selected on a voluntary basis.

The proposed model is articulated in four different phases:

- 1) presentation of lean marketing and the scope of the project to company employees – in this phase we emphasize the concept of waste;
- 2) Measurement of the wastes. The wastes relief come from analysis of documents, and data gathered usually by customer service (i.e. percentage of claims, number of defects, lead time to ship, etc.). Moreover, we interview Chief Executive Officers (CEOs), sale force, R&D, and customer service. Every waste is a part of a questionnaire and in the questionnaire every waste has several questions. From the data gathered we determine a rating and this represent the "As Is".
- 3) Measurement of the ideal state of the wastes. We evaluate what is the target of reduction or improving for every waste. With a new questionnaire to CEOs, salesforce, R&D, and customer service, we investigate the "desired situation". The answers are based on a Likert scale with the typical five-levels. The data collected give a rating for every waste and this represent the "To Be".
- 4) Identification of critical waste and strategy's determination to improve products or processes. All the information are elaborated and we obtain a Kiviati diagram (see figure n. 1). The red line represents the "As Is" status, while the green line represent the "To Be" status.

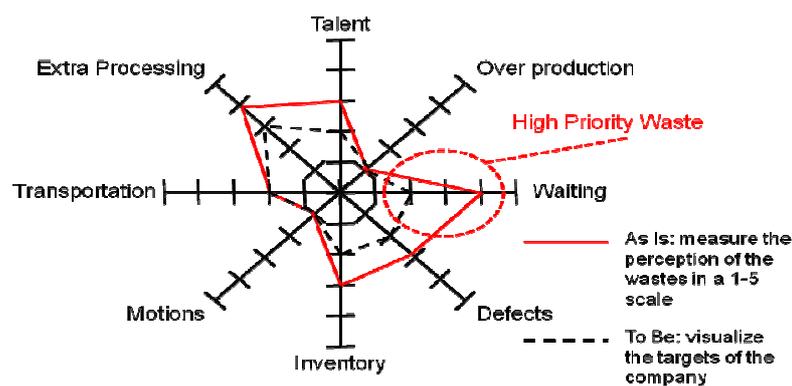


Figure 1: The Kiviati diagram and an example of high priority waste

The waste we must reduce is characterized by a high gap between the "As Is" state and the "To Be" state. This situation represents an high discrepancy and it needs a project to remove the no-value added activities. In every case, the improving factors are characterized by a great "As Is" status. When a waste is identified, company develop a strategy to improve the process or the product. Company will target their effort to reduce the gap using tools like Makigami, Qfd, Postponement, etc.

After one year from the start of this project, we sent by email a questionnaire to the twelve companies. All questions are structured with a Likert scale. We aimed to record a level of satisfaction about the model proposed. In the following table there are summarized the main results.

Table 2: Level of satisfaction after the application of the proposed model (sample 12 companies)

Questions	Average	$\delta$
The used representation is useful to take a strategic decision.	4,3	0,62
With this model we reduce the time to improve a process or a product.	4,0	0,85
The model increases the level of knowledge of customers	4,3	0,65
Our company knew the lean management	4,8	0,45
Our company made use of the lean philosophy in marketing context	1,7	0,78
The model is difficult to implement	1,5	0,80
Only managers can use this representation	1,5	0,67
With this model we reduce the costs of improvement	3,6	0,67
The model helps to identify more quickly which tools are useful to improve the level of customer satisfaction	4,6	0,51
The model doesn't increases the level of customer satisfaction	1,3	0,45

## 4. Conclusions

The first result is that the eight wastes classification should be valid in marketing context. Moreover, the companies involved in the project have a positive verdict on the model. In particular, the companies say that the model is easy to use, increases the level of knowledge of customers and it's useful to increases the level of customer satisfaction.

Unfortunately the model needs a good knowledge of the target market, obtainable through regular survey on customers. In order to improve the application of the model is necessary to identify a rating system to give priority to the various improvement projects that are identified in a company.

At the end of the project, all twelve SMEs are using this model to identify the wastes in their marketing strategies. All enterprises declare that this classification is a useful method to take evidence of non value added activities.

## References

- Akao, Y. (1990), *Quality Function Deployment*, Productivity Press, New York.
- Baldwin, C.Y., Clark K.B. (1997), "Managing in an Age of Modularity", *Harvard Business Review*, Vol Sept-Oct, pp. 84-93.
- Bateson J. (1983), *Self-service Consumer: An Exploratory Study*, London Business School, London.
- Bhasin, S., Burcher P. (2006), "Lean viewed as a philosophy", *Journal of Manufacturing Technology Management*, Vol. 17, No. 1, pp. 56-72.
- Chen, H., Taylor, R. (2009), "Exploring the Impact of Lean Management on Innovation Capability," in *PICMET 2009 Proceedings*, August 2-6, Portland, Oregon.
- Crosby, P. B., (1979), *Quality is free: making quality certain in uncertain times*, McGraw-Hill, New York, NY.

Gibbons, P., Kennedy, C., Burgess, S., Godfrey, P., (2012), "The development of a lean resource mapping framework: introducing an 8th waste," *International Journal of Lean Six Sigma*, Vol. 3, No. 1, pp. 4-27.

Gupta, D., Buzacott, J.A. (1996), "A goodness test for operational measures of manufacturing flexibility", *International Journal of Manufacturing Systems*, Vol. 8, pp. 233-245.

Holmström, J., Främling, K., Kaipia, R., Saranen, J. (2002), "Collaborative planning forecasting and replenishment: new solutions needed for mass collaboration", *Supply Chain Management: An International Journal*, Vol. 7, No. 3, pp.136-145.

Jenkins, D., Gregory J., (2003), *The gorillas want bananas. The lean marketing handbook*, Lean marketing Press. U.K.

Karlson, C., Ahlstrom, P. (1996), "Assessing changes towards lean production", *International Journal of Operations & Production Management*, Vol. 16, pp. 2-11.

Liker, J.K. (2004), *The Toyota Way - 14 Management Principles from the World's Greatest Manufacturer*, McGraw-Hill, New York, NY.

Lowry, J.R., (2003), "A primer for lean marketing", *Business Horizons*, Vol. May-June.

Mascitelli, R., (2007), *The Lean Product Development Guidebook*, Technology Perspectives, Northridge.

Maskell, B., Baggaley, B., Grasso, L., (2011), *Practical lean accounting*, CBR Press, New York.

Naylor, J.B., Naim, M.M., Berry, D. (1997), "Leagility: interfacing the lean and agile manufacturing paradigm in the total supply chain", *International Journal of Production Economics*, Vol. 62, pp. 107-118.

Norman D.A., (1998), *The Psychology of Everyday Things*, Basic Books, New York, NY.

Ohno, T. (1988), *The Toyota Production System; Beyond Large Scale Production*, Productivity Press, Portland, OR.

Schipper T., Swets, M., (2009), *Innovative Lean Development*, CBC Press.

Upton, D.M. (1994), "The management of manufacturing flexibility", *California Management Review*, Vol. 36 (Winter), pp. 72-89.

Van Der Merwe, A., Thomson J., (2007), "The lowdown on lean accounting", *Strategic Finance*, Vol. 88, No. 2, pp. 26-33.

Van den Poel D., Buckinx W., (2005), "Predicting online-purchasing behavior", *European Journal of Operational Research*, Vol. 166, No. 2, pp. 557-575.

Ward, A.C., (2007), *Lean Product and Process Development*, Lean Enterprise Institute.

Womack, J.P., Jones, D.T., Ross, D. (1990), *The Machine that Changed the World*, Rawson Associates, New York.