



*Department of Management*

*Chair of Corporate Strategies*

**LEAN THINKING AND CHANGE MANAGEMENT IN THE  
STRATEGIC PLANNING PROCESS:  
A CASE STUDY OF AN ITALIAN FAST-GROWING  
SMALL COMPANY**

**SUPERVISOR**  
Prof. Federica Brunetta

**CANDIDATE**  
Federico Zignani  
ID N.: 681261

**CO-SUPERVISOR**  
Prof. Karynne Turner

**ACADEMIC YEAR 2017-2018**

# CONTENTS

Introduction	Pag.	4
--------------	------	---

## **Chapter I** **Lean Thinking and Change Management: Theoretical Framework**

1.1. The History and Development of Lean Thinking	Pag.	7
1.1.1. The Mass-production Organizational Model	Pag.	9
1.1.2. The Dawn of the Toyota Production System	Pag.	10
1.1.3. The Decline of Mass-production	Pag.	10
1.1.4. The Establishment of the Toyota Production System	Pag.	11
1.1.5. Two Mindsets: “Mass-production” Mindset vs “Lean Organization” Mindset	Pag.	12
1.1.6. Six Sigma: An Alternative (American) Model	Pag.	12
1.1.7. Lean Thinking and Six Sigma: Enemies or Allied?	Pag.	14
1.2. Basic Principles of Lean Approach: The Final Evolution of Lean Thinking	Pag.	15
1.2.1. Add Nothing But Value	Pag.	15
1.2.2. Center on the People Who Add Value	Pag.	17
1.2.3. Flow Value From Demand	Pag.	18
1.2.4. Optimize Across Organization	Pag.	18
1.3. Lean and Change Management: The Formula Leading to Excellence	Pag.	19
1.3.1. Change Management: A Matter of Human Being	Pag.	20
1.3.2. The Cycle of Change Management	Pag.	21
1.4. Methodologies: The Complete Guide for Effective Lean Strategies	Pag.	21
1.4.1. PDCA or Deming’s Cycle: A Scientific Method	Pag.	22
1.4.2. Total Quality Management and Lean Production	Pag.	25
1.4.3. The Just-In-Time (JIT) Tool for Lean Approach	Pag.	26
1.4.4. Performance Management in the Success of Lean Context	Pag.	27
1.4.5. Multisource Feedback: An Investigation Method to Understand Strengths and Weaknesses of Human Resources Inside a Firm	Pag.	29
1.4.6. The Activity Based Costing Methodologies: A New approach for Cost Management	Pag.	31
1.5. Operational Tools: From Theory to Practice	Pag.	32
1.5.1. Balanced Scorecard: A Powerful Tool for Every Type of Organization	Pag.	32
1.5.2. Advanced Human Resource Tools: Multisource Feedback with Ad Hoc Tools and Performance Monitoring	Pag.	35
1.5.3. PDCA Tools: The Four Areas	Pag.	39

## **Chapter II**

### **Analysis of the Research Problem: Fast-Growth and Change Management**

2.1. Rapid-Growth Firms: The Four Main Areas to Achieve and Maintain Growth	Pag.	42
2.1.1. Founder Characteristics: The Importance of the Entrepreneurship	Pag.	42
2.1.2. Firm Attributes	Pag.	43
2.1.3. Business Practice	Pag.	44
2.1.4. Human Resource Management Practice	Pag.	44
2.2. Lack of Planning in Small Business	Pag.	45
2.2.1. Formal and Informal Planning in SMEs	Pag.	46
2.2.2. Business Planning and Performance in Growth Stages	Pag.	47

## **Chapter III**

### **Settings: The context of the Firm, The ICT Market**

3.1. The Information and Communication Technology Sector: Definition and Numbers in a Global Perspective	Pag.	48
3.2. ICT: Risk and Key Features	Pag.	56
3.3. ICT: The Italian Sector	Pag.	57
3.3.1. Industry 4.0: Driver of the Italian ICT	Pag.	58
3.4. Market Structure: Some Numbers and Description	Pag.	59
3.4.1. Labor Productivity and Value Added	Pag.	60
3.4.2. Lifetime of IT Firms and Characteristics of Workers	Pag.	61
3.4.3. Firms Structural Data	Pag.	61
3.4.4. Geographical Areas of Activity	Pag.	62
3.4.5. Activity Categories and Main Supply Portfolios	Pag.	62
3.4.6. Targets and Markets	Pag.	63
3.4.7. Sector Prospects and Drivers/Obstacles to Growth	Pag.	64
3.4.8. Positioning	Pag.	65

**Chapter IV**  
**The Business Case: Techno Center, a Small Italian ICT  
Company**

4.1. Techno Center: General Description and Prospects	Pag.	67
4.1.1. SWOT Analysis	Pag.	69
4.1.2. Positioning	Pag.	70
4.1.3. Products and Services	Pag.	70
4.1.4. Organization and Key-Men	Pag.	71
4.2. Research Problem: The Techno Center's Growth and Lack of Planning	Pag.	73
4.2.1. The Importance of the General Manager	Pag.	74
4.2.2. Firm Attributes: Between Internal Values and Partnerships	Pag.	74
4.2.3. Business Practices: From Product Excellence to Some Inefficiencies in the Internal Process	Pag.	75
4.2.4. Human Resource Management Practice	Pag.	76
4.2.5. Lack of Formal Planning	Pag.	76
4.3. Operational Tools in Practice: Data and Methodologies	Pag.	78
4.3.1. Multisource Feedback and HR Procedures: Focus on Intangible Assets	Pag.	79
4.3.2. PDCA Tools: From Scientific Method to Practice	Pag.	82
4.3.2.1. "Plan": Business Plan and the Budget Table	Pag.	82
4.3.2.2. "Do": Internal Procedures, Training Needs and Functions Chart	Pag.	84
4.3.2.3. "Check": Finance&Budget Control	Pag.	87
4.3.2.4. "Act": The Quality Book	Pag.	88
<b>Conclusions</b>	Pag.	89
<b>Bibliography</b>	Pag.	91
<b>Sitography</b>	Pag.	104

## Introduction

*“The essence of strategy is choosing what not to do.”*

*—Michael Porter*

This period is considered one of the most fast-changing one, especially in business context. Firms and organizations challenge critical markets and hard competition in their survival path and few of them emerge as successful. This elaborate is focused on a particular market: the Italian ICT sector. A market that can be considered stable, with a steady growth and dominated by big companies that own the largest part of the shares of market. The question is: how a small-medium company succeed in a market with these premises?

The elaborate analyses a concrete situation of a fast-growing small company in the Italian sector and it has the goal to underline the most important part of this success: the strategic planning. In this particular case, the strategic plan was influenced by two philosophies born in production context but spread in organizational and strategical management: Lean Thinking and Change Management.

So, starting from these two approaches and their historical and strategical backgrounds, this elaborate describes operational tools linked to them and to the firm's growth. Once the theoretical framework is built, it is important to understand the research problem: why a firm needs a strategical plan?

Essentially the explanation of a general tendency in growing firms of a scarce management of growth and completely lack of planning that could bring an organization to the collapse.

Another factor can influence the way of a firm: the market context. As I said at the beginning, this elaborate is focused in one of the most important and changing market of the world, the ICT market. Unavoidably, we cannot speak about a specific case

study without explained its settings. So, initially speaking of the world ICT market and their growth, I addressed the attention on the specific case of the Italian market, comparing features of the two backgrounds.

After I have described the theoretical structure of the thesis, I will analyse the specific business case: The Techno Center S.p.A.

A case study of a process of transformation started in 2016 with the decision of the management to build a solid strategical plan to have continuity in the strong process of growth begun the previous two years.

Essentially, the elaborate, through the analysis of the Techno Center's data, wants to be an additional proof of the importance of strategy and planning, also in SMEs context, in which, often, the lack of these components bring to an inevitable business failure.

## Chapter 1

### **Lean Thinking and Change Management: Theoretical Framework**

*“It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts”*

*-Arthur Conan Doyle*

In the modern economy, and in this developing market in which firms move, it is fundamental to give attention to the strategical planning to reach the competitive advantage.

In fact, theory is trying to define effective strategies to face this increasing uncertainty around markets and business environments.

One of the most interesting areas of research is what concerns the “Lean Approach” which shows how the pursuit of excellence and the organizational change required by lean production leads to a management-by-process organization, and that management by process influences the performance measurement system (PMS) (A. De Toni, S. Tonchia, 1996).

Moreover, the help of some “tools” and the correlation with some modern standard approaches, as the Circular Economy (in this case meaning the attempt to avoid waste and poor of quality management processes inside firms), can bring a firm to reach high standards of quality and improvement of the competitive position.

To give an exact idea of what is the theoretical structure of the approach used all over this script that creates the real guidelines of the process of revolution inside this firm, we have to start a journey around the steps that compose the puzzle of Lean and Change Management. Then, we are going to focus on

methodologies of these organizing approaches to understand the practical tools that are applied to our case.

### **1.1. The History and Development of Lean Thinking**

*“Why not make the work easier and more interesting so that people do not have to sweat? The Toyota style is not to create results by working hard. It is a system that says there is no limit to people’s creativity. People don’t go to Toyota to ‘work’ they go there to ‘think’”*  
– Taiichi Ohno

Lean as a business strategy is used to improve quality and service, eliminate waste, reduce time and costs, and enhance overall organizational effectiveness (B. Zhou, 2016).

Frequently the use of this approach occurs in small and medium firms that enhance their competitiveness, primary for internal reasons (reducing costs, improving organization, cutting wastes). When SMEs are analyzed, it could be seen that every entity apply a personal type of processes and tools to act a lean change every time targeted to reach an improvement in the performance systems. It is an approach tending to the efficiency, and not only in terms of production but, especially, in terms of processes, from the top to the bottom of the firm pyramid.

The concept of efficiency was always central since the development of the Toyota Production System (TPS) by its mastermind Taiichi Ohno.

To reach the goal of efficiency, Lean manufacturing focuses on the systematic elimination of wastes from an organization’s operations through a set of synergistic work practices to produce products and services at the rate of demand (J. P. Womack et al., 1990; R. R. Fullerton et al., 2003; D.F. Simpson and D. J. Power, 2005; R. Shah and T. Ward, 2007).

It is in the Lean approach that we can find a list of correlated lean practices as the Just-In-Time (JIT), total quality



management, total preventative maintenance, human resource management (HRM) (K. E. McKone et al., 1999; M. Swink et al., 2005; K. Linderman et al., 2006; R. Shah and T. Ward, 2007) those composing an overall concept as Lean Thinking.

The born of the term Lean thinking comes from a must-have book called *The Machine That Changed the World: The Story of Lean Production* by James P. Womack, Daniel T. Jones, and Daniel Roos (M. Poppendieck, 2002). This book is a chronicle of the movement of automobile manufacturing from craft production to mass production to lean production. Starting from the Henry Ford's work on production activity, the authors tell how the necessities of the market bring the focus on the indirect labor as production planning, engineering, and management.

Especially the development of an approach (the Lean one), that, coming from a small Japanese company (Toyota), has changed the thinking about the manufacturing production and also the management practices for quality improvement.

So, from that small firm, now a giant in the automotive market, the Toyota Production System has become the 'Lean production'.

Lean production is 'lean' because the lower use of everything inside a production process, from the human effort to the manufacturing space, to the engineering hours to develop a new product (J. P. Womack, 1990).

This approach and this thinking are born for a necessity to face an increase in the demand market with a no proper production structure to serve it. Through the 'lean tools', a firm can avoid wastes and inefficiencies targeting those process without an optimal management of timing and resources. And that tendency to the management of the time inside the organizational is emphasized by the JIT with celebrated examples, especially in the software market (eBay, Microsoft,

etc). In the JIT, in fact, the focus is on the shortening of the time between problem recognition to product solution.

### ***1.1.1. The Mass-Production Organizational Model***

In the twentieth century the proposition and expansion of the Taylor's *Scientific Management* was important for the growth of the western countries production economy.

This theory proposed a new meaning in which the best establishments had to be a scientific organization of their organizational roles.

The famous American entrepreneur, Henry Ford, created its organizational model on the influence of the taylorist scientific method (the well-known model "T"), introducing in this model the assembly line.

Assembly line, seen as the center of the Ford's model, includes also the role of the worker as subdued by the mechanisms of the chain, influenced by the rhythm of the cycle time (*takt time*). In this view, the worker was considered as a mere part of the chain, without any value added (this is one of the main difference point with Lean Organization).

This exceeded (or not always) model can be considered as a perfect, perpetual model (uninterrupted *lead-time*) with not a great flexibility in term of inventory and workers conditions.

One of the critical aspect of this model was the alienation of the individuals inside the production system:

Workers were considered as mechanical parts, and in these conditions, they could lose their perception of the reality (thinking about this aspect in the Charlie Chaplin's movie "Modern Times").

### ***1.1.2. The Dawn of the Toyota Production System***

From the post II-World War background, Japan had to fight against a defeating country situation in which American industries were leaders. Some of the main features of the Japanese firms were the costs of raw materials, rigid salary ranges and a smaller internal demand respecting the winner western countries.

So, in the eastern countries, it started a real mania for the glorious mass production grown, especially, in America. This was the start for the will of knowledge about that type of model that brought Eiji Toyoda, and his production engineer, Taiichi Ohno, to travel to U.S.A. to understand the Fordist style of production and apply it to the Toyota business.

Instead, Ohno understood the real change of the market and how a cost reduction in the mass production wouldn't be effective in the near future need of the demand.

### ***1.1.3. The Decline of Mass-Production***

The '70s were difficult years for western industries in which GDP was steadily, and there was an increasing of the purchasing power of the consumers.

An increasing of the purchasing power is often attached with an increasing demand for higher quality as personalization and addiction of features to the products.

It is quite obviously that a change like this brought a crisis inside the mass production system that was so rigid and structured respecting the changes of the consumers' needs.

The highest point of crisis in the mass production model coincides with the American economic crisis of the 1971 and the increase of the cost of fossil fuels caused by the Yom Kippur war in the Middle East.

The overall of these events hit the stability of the Ford's model based especially in the unstable resource that is petroleum.

It was in this scenario that the visionary Japanese model of Muda, acting to eliminate internal wastes through the improving the quality of products and reacting demand personalization of products in a sustainable way, become a leading trend in the economic world.

So, in the 1970s, Japan converted the American leadership in a past memory, indirectly imposing its effective and flexible models around the globe.

The answer of the western countries was not so fast:

European countries acted a protectionism. USA tended, in the 1980s, to a progressive automation in production processes thanks to the development of computer science revolution of those years.

#### ***1.1.4. The Establishment of the Toyota Production System***

With the consolidation of the Japanese standards, the USA started a process of revolution in economical and industrial terms. Highlighted from the introduction of the *Malcolm Baldrige* prize by Ronald Reagan, in the American market there was, in the 1980s, a complete shift towards the Lean Approach.

Evidences of this passage were the concentration of the theoretical studies to the new concepts:

First of these was the elaborates by Womack and Jones with their book *The Machine That Changed the World* and then with *Lean Thinking* confirming the successful effectiveness of the Lean Manufacturing in the western business cultures. In fact, it was in 1992 that the term “Lean production” was created by these two MIT researchers, Womack and Jones; from that point, Lean Production spread all around the world influencing thousands of organizations not only in the production area but also in the management methods and techniques.

**1.1.5. Two Mindsets: “Mass-production” Mindset Vs “Lean Organization” Mindset**

Following a lecture of a senior research scientist of MIT, Joel Cutcher-Gershenfeld, we are going to sum-up the main characteristics of the two approaches through a comparison between their mindsets.

In the Mass-production mindset, the main features are the following:

<b>Mass-production Mindset</b>	<b>Lean-Organization Mindset</b>
Producer “Push”	Customer “Pull”
Movement of Materials	Flow of Value
High Volume	Flexible Response
Inspection	Prevention
Expert-driven	Knowledge-Driven
Decomposition	Integration
Periodic Adjustment	Continuous Improvement

**1.1.6. Six Sigma: An Alternative (American) Model**

Motorola wined the *Malcolm Baldrige* thanks to the implementation of the famous Six Sigma pattern applied first on productive processes, and then on all company processes.

The expansion of this approach was settled in the first years of the 2000s by the application of the General Electrics (GE) and its CEO Jack Welch.

In these years this approach was theorized by Harry and Schroeder with their book defining a precise theoretical framework. In fact, the defined management system involves teams with certified specialization and improvement programs organized under the *DMAIC* steps that is composed by five steps, Define-Measure-Analyze-Improve-Control with an aim in creating savings.

The real focus of this approach is the reduction of the variability of process, being it a natural part of every process.

Variabilities that mean certain events that are critical in reaching the target and that must be within a toleration zone.

These traits are called Critical to Quality (CTQ), and the distance from these events is measure through the “sigma” or standard deviations. The number of the “sigma” has to be inside the range among the target to be positive and to not produce non-conformities. The non-conformities are a good indicator to improve customer satisfaction and to create savings around the *Cost of Poor Quality* (COPQ). To evaluate the reach of the Six Sigma quality, it be can evaluated the following table:

**Table 1.1** Correlation among sigma level, DPMO and COPQ

Sigma level	Defects per million opportunities (DPMO)	Estimated cost of poor quality (COPQ)
2	308,537	Not applicable
3	66,807	25–40% of the turnover
4	6,210 (standard industry)	15–25% of the turnover
5	233	5–15% of the turnover
6	3.4	<1% of the turnover

From Harry and Schroeder (2000)

**Table 1.1** “Correlation Among Sigma Level”

As we can see, the reach of a Six Sigma position implies the production of 3.4 defect products per million.

At the beginning, it was cited the DMAIC improvement program of the Six Sigma. But what is it composed?

This is a five steps process:

- 1) Define: acting a determination of the process that has need to be improved;
- 2) Measure: highlighting the state of CTQs and so the deviation from the target;
- 3) Analyze: detecting the reasons for defects and wastes (also linked to Muda in the Lean Thinking);
- 4) Improve: creating the project to eliminate the causes of these wastes;
- 5) Control: the phase in which the project is measured, and the results are monitored.

In these phases some tools, from the TQM, are used. In the last years they have been modified by Lean Thinking.

The Six Sigma is a process that must produce results under the form of savings.

#### ***1.1.7. Lean Thinking and Six Sigma: Enemies or Allied?***

Since the origin of Six Sigma, most of academics and consultants of companies have tried to understand if there was a better approach between Lean and Six Sigma.

In the reality, it is impossible to define a best tool, de facto; in fact, the ideal more effective approach depends on what is the final goal. Trying to make a sum-up of the characteristic of the two approaches, it can be seen that:

- 1) The focus of the Six Sigma is a reduction in variation; instead in Lean Organization is a waste reduction;
- 2) The main tools for Six Sigma are quality and Problem-Solving tools linked with project management; in Lean there is the use of the Toyota Production System tools.

Even if they are different in some characteristics, the American specialist consultant George was one of the first to mix these methods. Under George's studies, Lean tools can be applied to the strict DMAIC pattern stressing the concept that

Lean improve speed in the resolution of conflicts and problems (reduction of the lead-time of the process flow).

One of the main problem of Six Sigma is the complexity of its tools and processes at all. Lean, instead, with its mentality of continuous and fast development, has brought new tools and principles in the Six Sigma processes, especially in the employee management.

Now, organizations are trying to face the double positive aspects of the two approaches in the Lean Six Sigma:

A combination of the speed of Lean in the processes with the scientific method of reduction of variability of Six Sigma.

## **1.2. Basic Principles of Lean Approach: The Final Evolution of Lean Thinking**

Following the Poppendieck's work, there are four basic principles of Lean thinking that can be considered the most recent and relevant ones:

- 1) Add Nothing but Value
- 2) Center on the People Who Add Value
- 3) Flow Value from Demand
- 4) Optimize Across Organizations

### ***1.2.1. Add Nothing but Value***

The first step into the Lean approach is the consideration about what value is and which resources and processes are more favorable to create it.

If a firm understands the necessary information about these 'lean' aspects, it can avoid wastes.

This is a fundamental step to start a break with the lean approach. Without having a real consciousness of wastes, lean approach cannot be applied.

So, how to understand and see waste?

Waste was classified in different ways during the organization history. Among the most famous examples of



waste classification there are the 3 “MU” that is a traditional Japanese approach, 4 M or 5 M that is a traditional Japanese TQM approach, the Seven Wastes Approach, an American adaptation of the Japanese approach and the Cost of poor quality, a typical American TQM approach (A. Chiarini, 2013).

For what concerns the concept of 3 “MU” is stands in Japanese for:

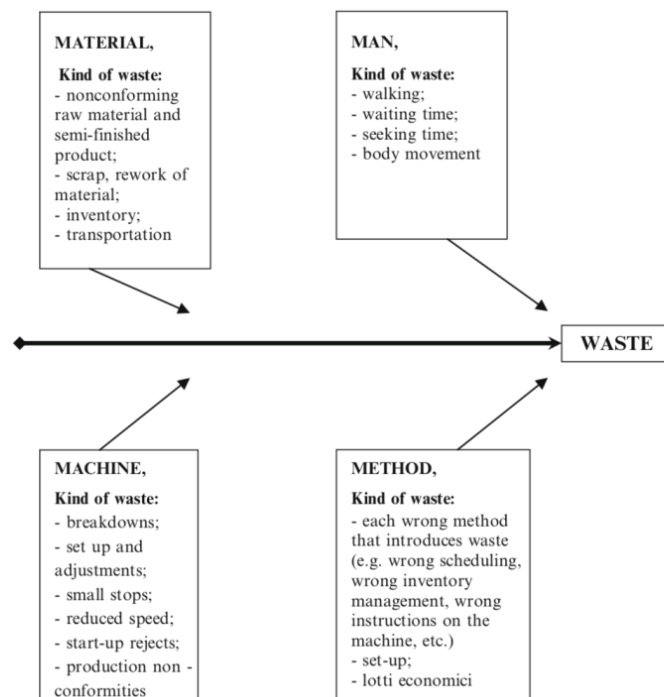
- Muda: overcapacity than workload
- Mura: capacity that swings around the fixed target
- Muri: more workload than capacity

Lean approach, in fact, tends to create a perfect equilibrium between workload and capacity.

The 4 M approach is something about the so-called “fishbone” diagram (Fig. 1.1) ideated by Ishikawa in the ‘50s.

Wastes are divided into 4 categories based on the nature of origin: M as Man, M as Material, M as Machine and M as Method of work.

Sometimes is called 5 M because is added, also, the impact of the component “mother nature”.



### **Fig. 1.2 “Fishbone” diagram**

Developed by the master of Lean, Ohno, the model of 7 relevant wastes in an organization is typically applied to the production world, but it can be seen also in every context, personalizing every topic to a specific environment.

These seven relevant wastes are: Overproduction, Inventory, Motion, Defectiveness, Transportation, Overprocessing and Waiting.

Finally, the world of Six Sigma, TQM and ISO 9001 (the standard of quality) are developed the concept of “the Cost of Poor Quality”. This means that every product or service that do not satisfy the customers’ standards generates a non-conformity with its related Cost of Poor Quality that can be classified as prevention and appraisal costs and internal and external defectiveness.

#### ***1.2.2. Center on the People Who Add Value***

A lot of organizations center their attention on people, but not so many of them centers their attention those people that really add value.

People with this “added value” are generally those individuals that are the center of resources, information, process design authority, decision making authority and organizational energy.

This concept is very important because in lean thinking, people are important for the detection of problems or to improve mechanisms in the organization process; this is not true under the mass-production approach in which unskilled workers are totally disinterested to give information being engineers and managers responsible for production (M. Poppendieck, 2002).

Applying this principle is equivalent to mean improving the skills of developers through training and apprenticeships.

### ***1.2.3. Flow Value from Demand***

It is fundamental in Lean Thinking to stress the idea of flow. In fact, if you only add value but you do not think also at the rapidness of the flow, you create a waste in the form of inventory or transportation or extra steps.

The common standard in Lean Thinking is that flow should be ‘pulled’ from demand. This is what we mean as ‘nothing is done unless and until a downstream process requires it’ (M. Poppendieck, 2002).

In all these cases, forecasts are not contemplated in the production system because commitment comes out just in place of a real customer need (satisfaction of a concrete demand from customers). The concept is about filling each order in the same time in which it is demanded by the market.

Changing the old mind of mass-production with huge inventory, Lean brings the organization to fast the processes, especially in the inventory context:

Small inventory, fast creation product, customer satisfaction, avoidance the wastes.

It is quite obvious that a lean inventory (to mean distribution channel) must be supported by an effective lean supply chain.

To break the old habit of mass-production of the “batch and queue” requires a continuative work on the simplifying processes. The lean idea is to correct problems as soon as they appear. This type of system is quite robust because it does not hide problems, but it faces them immediately, trying to solve as soon as possible.

### ***1.2.4. Optimize Across Organization***

One of the biggest barriers to adopting lean approaches remains the organizational one.

This problem is created in the movement of products from one department to another, and it will create a big gap

(especially for the difference of performance measurements from a dep to another).

How to solve these problems of coordination?

Lean Thinking, generally, creates a unique structured team that is responsible of the overall business value instead of the intermediate measurements.

### **1.3. Lean and Change Management: The Formula Leading to Excellence**

“It is not necessary to change.

Survival is not mandatory.”

—W. Edwards Deming

Change Management was defined for the first time by Moran and Brightman as ‘the process of continually renewing an organization’s direction, structure, and capabilities to serve the ever-changing needs of external and internal customers’.

If we consider change as a “new concept”, it could be considered that change in a modern thinking is something distant from the change of the initial years of 1900.

In fact, in the last decades, we have seen a fast acceleration of the change, especially in the business context, also because of some revolutions in the ICT technologies.

It is quite obvious that the figure of change is a critical aspect to manage inside an organization structure both an operational and strategical level (R. Todnem By, 2005).

Especially in fast-developing markets or in fast-growing firms, the necessity of understand how to organize change in foreseeing where to arrive is a fundamental process for the wellness of these contexts. So, the effective and successful

management of change is accepted as a necessity and a priority to survive in highly competitive sectors (R. Luecke, 2003).

### ***1.3.1. Change Management: A Matter of Human Being***

Change management is focused on the role of people, especially in the organizational structures; in fact, people has the double role of subject and object of change (F. Dievernich and R. Wetzel, 2014).

Change consists of a series of closer approximations to big targets which are shared and embraced by the people inside the organization (B.K. Brightman and J.W. Moran, 2001).

In the change management, especially if this change involved great change in work habits, it must be remembered on which drivers change strikes: *Purpose, Identity and Mastery*.

A person resists to a change respecting the degree that change outrages him/his sense of purpose. If a change is conformed to a person's sense of purpose, he/she approaches that change with favorable reactions.

Identity is another critical driver of human change management: people have a will of personal integrity and consistency. Every change that modifies this equilibrium and person's sense of integrity will start a process of motivational return to the initial status quo. This sense of personal consistency is one of the main powerful drivers of resistance to the change for people.

Even the perception of our own sense of mastery could be seen as a threaten to the survival.

It is important to underline that change has an important personal dimension. The more the change is radical, the more is fundamental to re-equilibrate the people's values and beliefs.

An effective leadership challenges people to adjust the sense of Purpose, Identity and Mastery with main business initiatives.

### ***1.3.2. The Cycle of Change Management***

Being change a cyclical process, it is composed by some phases:

- 1) Understand the current situation
- 2) Determine the desired state and develop a plan of action
- 3) Enlist others and develop critical mass
- 4) Track and stabilize results

To understand the current situation, a change leader must have the big picture of the situation. In fact, he/she has to make sure each change efforts are involved for the same organization's strategic objectives.

In the second phase, there is the building of the plan of action. In this phase, change managers must analyze and unify many different perspectives.

In the third phase there is the real implementation of the change requiring a wide range of communication skills and a depth of knowledge.

The last phase is about the stabilization and tracking of result through the creation of specific performance targets and measures.

### **1.4. Methodologies: The Complete Guide for Effective Lean Strategies**

In the following paragraph it will be an extensive explanation of the main methodologies applied in the context of Lean Organization and Change Management process in reaching an effective and permanent change of the organizational approach from a starting phase to a complete renewed mind inside the firm through which it is possible to create a flexible strategic plan in the growth management.

This list is composed by the most common approaches that influenced Lean Thinking, from the beginning to the present. Between them, we can find the PDCA or the Deming cycle, the

Total Quality Management standards (TQM), Just-In-time (JIT), Cascading, Performance Management.

So, let's start our tour.

#### ***1.4.1. PDCA or Deming's Cycle: A Scientific Method***

Plan-Do-Check-Act (PDCA) cycles provide a good way to reach continuous improvement and to reduce non-conformities (M. Sokovic et al., 2010).

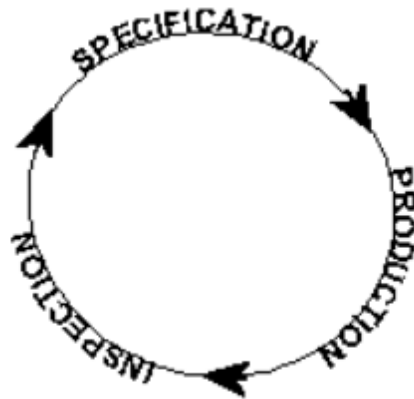
This cycle was developed thanks to the Dr. W. Edwards Deming's lecture during the Japanese Union of Scientists and Engineers (JUSE) in 1950. The PDCA method finds its own roots on the scientific method: from Galileo every scientific and mathematical experiment have in common the same logic of going-on and so do PDCA.

From this lecture and according to Misaki Imai, Japanese executives transformed the Deming wheel presented during the lecture into the codified Plan-Do-Check-Act cycle.

At the beginning, the PDCA started as a series of phases or steps for the development of product until it has become a cycle for process improvement.

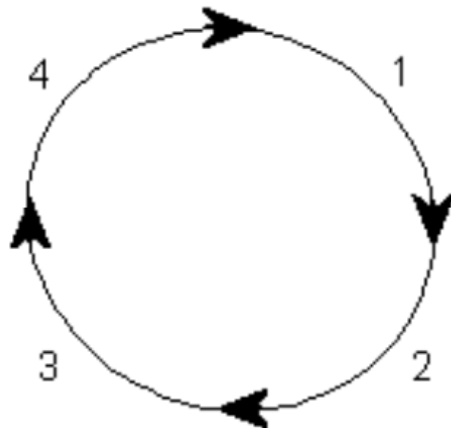
The master of the thinking behind the PDCA was Dr. Walter Shewhart, especially known for his development of statistical control tools. He introduced a complete new view in the product development timing, highlighted the concept of cycle instead of time linearity. What he thought about product and quality development cycle was around three main steps: Specification, Production and Inspection (Fig. 1.2).

So, he created a correlation between these three mass production steps concerting them into three scientific method steps: *“In this sense, specification, production, and inspection correspond respectively to making a hypothesis, carrying out an experiment, and testing the hypothesis.”*



**Fig. 1.1** “Shewart’s Cycle”

It was one of the Shewart’s student to modify the Shewart’s cycle, Dr. Edwards Deming. During the JUSE seminar, Deming added the 4<sup>th</sup> step calling it “redesign through marketing research”. After that, the Deming’s Wheel was created (Fig. 1.3).

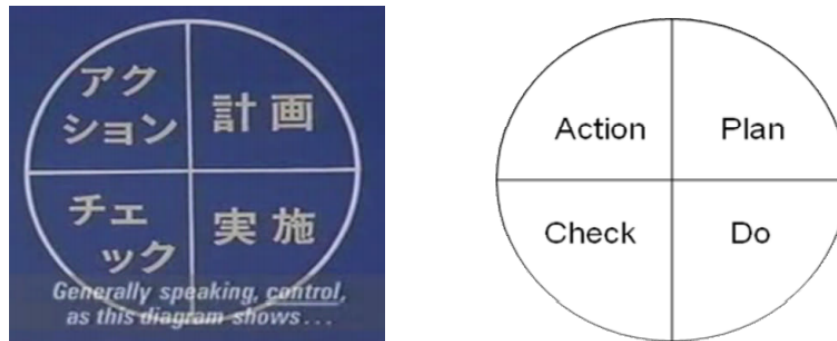


**Fig. 1.2** “Deming’s Wheel”

Japanese executives took the wheel as a source of inspiration and they translated it into the well-known PDCA cycle.

So, what the Deming’s lecture created was that method for process improvement that nowadays we know as PDCA cycle.





**Fig. 1.3** “PDCA Cycle”

According to Imai’s studies, Japanese executives were the founder of the name PDCA, but Deming was the mind of the steps cycle. In fact, Imai did not provide any further details about to who and how the Japanese executives translated the Deming’s Wheel into the PDCA Cycle.

However, Imai showed the correlation between the Deming Wheel and PDCA Cycle:

- 1) Design → Plan
- 2) Production → Do
- 3) Sales → Check
- 4) Research → Act

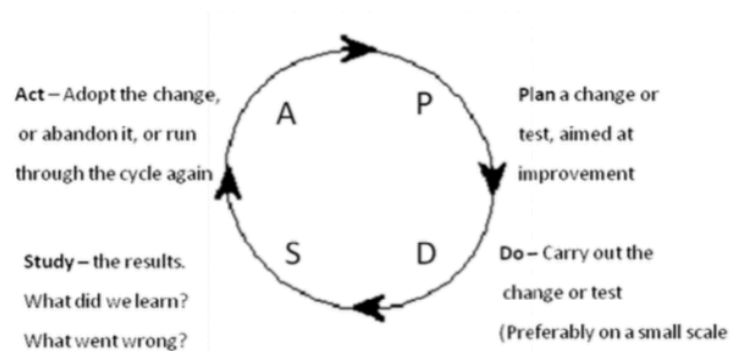
In the first step, design stands for the planning of management. The second step, production, corresponds to working on the product. In the third phase, the moment of sales is the possibility to CHECK the customer satisfaction. And the last but not least one, if complaints are externalized by customers, managers have to incorporate them into the planning phase, acting to improve the product.

After ‘60s, Japanese experts modified the PDCA Cycle into an improvement tool and a management tool. All of this built the foundation for improvement (kaizen).

The final version of the PDCA is PDSA. It was developed by Deming, re-inventing the Shewart cycle from 1986 to the last version of 1993.

He called it “the Shewart’s Cycle for learning and improvement”, the PDSA cycle (Fig. 1.5).

Deming highlighted that this cycle was the most accurate, changing the word Check in Study and stating “...be sure to call it PDSA, no the corruption PDCA.” The use of the word “study” in the third phase of the cycle emphasizes that the purpose of this phase is to build new knowledge (R. Moen, C. Norman, 2006).



**Fig. 1.4** “PDSA cycle”

It is quite obvious that both the PDCA cycle and the PDSA cycle are born from a rational mix of scientific method and the philosophy of science. The main features of the model are:

- 1) It could be applicable to every type of organization and group;
- 2) It gives a right framework for the improvement methods and tools;
- 3) It admits a flexibility of project plans to adapt;
- 4) It encourages the use of teamwork to reach improvements.

#### **1.4.2. Total Quality Management and Lean Production**

As Foley (2004) described, TQM can be considered as a revolutionary philosophy of management, a way to improve organizational performance. TQM is also often defined “as a

*continuously evolving management system consisting of values, methodologies and tools, the aim of which is to increase external and internal customer satisfaction with a reduced amount of resources”* (U. Hellsten and B. Klefsjö, 2000).

So, what we can deduce from the previous affirmations is that TQM is strictly correlated with business performance.

At the same time, Lean production is a method that promotes waste reduction and enhances business performance.

Generally, TQM is seen as a fundamental pillar for implementing Lean production practices. This is why the process should be stable to ensure the applicability of Lean tools, so TQM is a first step before implementing Lean approach (D.H. Besterfield, 2004). It could be considered a positive correlation between TQM and Lean production (M.F. Ahmad et al, 2012).

Although the definitions of Lean and TQM differ, the aim of the two approaches seems to be similar: through the same direction in eliminating waste and minimizing resources, they want to reach the improvement of business performance.

A strict point in common between the two methodologies is the use of the improvement cycle, the PDSA (see the previous paragraph). Even if, TQM includes some more tools:

Following the literature, there are mentions about the seven quality control tools (W.A. Shewart, 1931) (K. Ishikawa, 1985) and also the seven management tools (S. Mizuno, 1988).

#### ***1.4.3. The Just-In-Time (JIT) Tool for Lean Approach***

The JIT philosophy, coming from the Lean Thinking, advocates the elimination of waste by simplifying production processes (V. R. Kannan, K. C. Tan, 2002). The points of focus of JIT are, essentially, the reduction of managing times, material flows and preventive maintenance, as ways to reduce drastically the excess in inventories. Through numerous studies, JIT is seen as an effective way and strategy to improve manufacturing (but

also at every level of firm) performance, with a lot of evidences about it.

Just-In-Time can be considered as one of the four main concepts of TPS and consequently of the Lean approach (Y. Monden, 1983). To create the concept of JIT, Ohno devised Kanban as a means to pull material from an upstream station and manage product flow (P.T. Ward, R. Shah, 2007). What that Y. Sugimori in 1977 have described as JIT critical components are Kanban, production smoothing and set up time reduction. In the following definitions, these components were incorporate, including quality improvement and employee involvement (R.W. Hall, 1987; R. McLachlin,1997) and customer focus (B.B. Flynn et al., 1995). JIT is can be considered the concept and TPS, pull production, and Kanban are considered equivalent.

In the philosophy of JIT, one of the main aspect is the prevalence of elimination of waste, especially through the optimization of time. Linking this aspect to Lean, it can be seen that time is an important part of the process of re-thinking inside a firm, and thanks to the elimination of time-wasting, a process could reach a “Lean” setting.

It extremely important to underline that the elimination of time-wasting in Lean Thinking is based on the capability of focusing on priorities.

#### ***1.4.4. Performance Management in the Success of Lean Context***

One of the most effective methodologies to implement is that regarding the performance management.

In fact, the critical part of the change in a firm is the evaluation of those performance in the new organizational structure or in the new processes. In the performance measurements, frequently, organizations use generic measures

not thinking about the relevance of a wrong decision. The first challenge in choosing the measure is the understanding of the right indicators for the appropriate level of organization. The importance of the right choice in measures stands in the damages created by running against the firm strategy.

Companies must focus on how key performance measures can help to reach superior results in any area (S. Bhasin, 2008).

In attention of the choice of performance measures, a lot of companies try to focus only in measures related to internal processes not concentrating also on the customer needs. Many others, through benchmarking and best practices, can be lead in the wrong direction by following those practices spread in the industry, with no correlation to customer requests (G. Malone, W. Sinnett, 2005). It could be perfect to implement an ad hoc warning detection system indicating the reasons behind every performance problem.

In the lean context what Womack and Jones proposed in 2005, but also J. Bicheno and J. Liker&D. Meier, respectively in 2004 and 2006, underline that lean should have the following benefits:

- 1) shorter cycle time;
- 2) shorter lead times
- 3) faster response time;
- 4) lower cost;
- 5) greater production flexibility;
- 6) higher quality;
- 7) better customer service;
- 8) higher revenue;
- 9) increased profit.

It is, anyway, difficult to quantify the benefits of Lean (J. P. Womack, D. T. Jones, 2005).

Many have learned that some aspects of Lean can be achieved. Undoubtedly, the real benefits of Lean are difficult to catch but, perhaps, the best measure to track lean progress is

total product cycle time that can be accommodated in a scorecard approach (S. Bhasin, 2008). No single performance indicator can capture the complexity of an organization (W. J. Abernathy, 1999).

#### ***1.4.5. Multisource Feedback: An Investigation Method to Understand Strengths and Weaknesses of Human Resources Inside a Firm***

Multisource Feedback (MSF) is a process in which a conductor receives anonymous (and not only, especially when the search is about the efficiency of communication of a person inside the organization) feedback from all the stakeholders inside a firm (L.E. Atwater et al., 2007). It has become a very used tool, especially in the American organizations context. Its utilization is frequently adopted inside overall leadership development programs.

MSF can be considered different respecting the Performance Appraisal, even if both included the necessities for feedback. In fact, there are some similar aspects between them, but MSF has been designed as a development process tool more than an evaluative process tool. Moreover, MSF relies on anonymous sources.

There a lot of factors to be consider in the 360-degree feedback implementation, essentially studied by HR practitioners and that create a framework of the process, divided into three groups:

- 1) Factors before feedback;
- 2) Factor about feedback;
- 3) Factors after feedback;
- 4) The last one is about the outcomes of feedback process.

In the first group of factors, we find those factors in the organizational context, the perceptions of the process, the

individual differences and the responses to feedback (L.E. Atwater et al, 2007).

Regarding the organizational context, in fact, MFS process may be implemented to engage in different behaviors responding to organizational challenges. Furthermore, organizational context is one of the main factors in the success of feedback and its work. Additionally, organization resistance to change could block the implementation of the MSF. Longnecker, Sims and Gioia in the 1987 states that acceptance and trust in the process help the implementation of the feedback. And what is considered crucial in the feedback is the perception of anonymous feedback for what concerns the trust of the reports.

In the second group, among the factors to consider about feedback, we can find factors as the feedback format, the characteristics of feedback and also the reactions to feedback.

In the last group of factors, there are those faced after feedback. There are factors about the method through which feedback is distributed; other ones are regarding the support given by the organization; and the last ones concern individual attitudes and behaviors. Between them, the most critical factors are inside the last group. In fact, when we talk about multisource feedback, the theme of goal settings and need for change are stressed. When people faced with results of feedback not always change their habits if they do not perceive a real need for change. It was studied that improvement of human resources behavior is more likely if they really perceive a necessity for behavioral change (Smither et al, 2005). In the field of goal settings, the perception of a challenging goal is often sign of extreme improvement in efficiency and effectiveness by employees, especially at managerial level. This depends also on their personal tendency to goal-oriented approach and to challenge, in general. For example, D.J. Mesch et al. (1994) discovered that some employees, especially managers, who

received negative feedback tended to set higher and more improvement goals (see also J.W. Smither et al, 2003).

#### ***1.4.6. The Activity Based Costing Methodologies: A New Approach for Cost Management***

In a Lean implementation, great attention is given to reduction in those wastes at every level of an organization. One of the revolution method in the cost reduction in organizations is the Activity Based Cost methodology (ABC). This term, sometimes, brings to confusion between the concept of a firm as a network of processes or activities and the focus on how costs are accounted in traditional system. To understand the revolution inside the ABC approach we can refer to the French translation of ABC, A Base de Causes (“based on causality”):

It implies a totally new concept of representation of a firm and also a deep focus on managing costs more than costing, generally.

The traditional way to see accounting (and so costing) is not based on a precise understanding of a causal model (M.J. Lebas, 1995): this costing logic implies that costs are a given thing of nature and the only thing to do is to allocate them to cost objects in the most appropriate way possible.

In the revolutionary ABC view of accounting performance has been re-introduced the logic of causality. In this view, customers are considered at the root of the existence of costs, including them at the beginning of the calculation. So, customers are at the base of the existence of processes aimed at creating the value that they find in the product or service on the market. Consequently, processes are the cause of resource consumption, being directed to costs. The ABC approach is a reversal approach respecting to the traditional approach, putting customers’ needs and wills at the first step of the calculation process. In this sense, the meaning of performance is different in the ABC view: performance becomes the minimum amount of



process costs that admits the better satisfaction of customers' demand for quality and characteristics. But where the causality approach stays?

Without any doubt the causality remains on the identification of processes or activities (M.J. Lebas, 1995). In this way, the ABC philosophy acts on the minimization of costs through a work on the definition of the processes and on their coordination to avoid waste and duplication (following the common goal of lean implementation on reducing redundancies and useless parts of processes). The ABC view influences also the definition of budget and forecasts of volume of activity of processes and coordination of them.

### **1.5. Operational Tools: From Theory to Practice**

In this paragraph we are going to analyze what the main tools used for assessing some results in the complete process of change and lean implementation are, following the methodologies previously explained.

Among these tools, it is easy to find some ad hoc creation, designed specifically for this case, and explained starting from the theoretical background and then applied at the specific context of the firm settings.

#### ***1.5.1. Balanced Scorecard: A Powerful Tool for Every Type of Organization***

A balanced scorecard can be defined as a strategic planning tool useful to keep under control the strategic direction of an organization. In a more general definition a balanced scorecard (BSC) is a strategic planning and management system created to several purposes:

- 1) Externalization of what an organization is trying to accomplish;
- 2) Creation of an alignment between people work and the firm strategy;

- 3) Making of a prioritization of processes;
- 4) Monitoring results and progresses.

Balanced Scorecard was initially made for performance measurement combining a standard financial approach in measurement with non-financial measures to help managers to understand better organizational performance, particularly the key strategic goals (Kaplan, Norton, 1993).

During years Balanced Scorecard has become the center of a strategic communication and performance measurement framework that help managers to control and monitor implementation of strategic directives linked with the long-term vision of the firm (2GC Conference, 2001).

Generally, this tool is used in big companies for its ability to generate strong monitoring on processes, activities and projects. But many strategic management issues are important both in big and in small-medium organizations. Between them, we can find a need for a clear sense of direction, an understanding of business model for management, an attention on focus and prioritization, and finally in agility.

The main reason stands at the basis of the utilization of BSC in SMEs stands on its ability to formalize the description of strategic destination and associated strategic objectives and priorities to reach a final organization consensus; moreover, as Jennings and Beaver affirmed in 1997, it brings a positive shock to development and application of strategic and management processes. The implementation of BSC in SMEs includes some steps and features in common with a BSC in big companies. We refer to the differences when we speak about the duration of the process, quicker in SMEs for the presence of fewer people and less complex organizational architecture.

The BSC system creates a link between the main guidelines of company strategy such as mission, vision, core values and the operational elements such as objectives, measures or KPI (Key Performance Indicators), targets and initiatives.

In a more practical way, BSC suggests a view of the firm from four perspectives: financial, stakeholder, internal process and organizational capacity (learning and growth).

In the financial perspective or Stewardship, the analyzer looks at the financial performance and resources of an organization.

When we refer to stakeholder perspective, we link the concept to the organizational performance seen by the customer or those personalities linked to the organization (stakeholders) that the firm must serve.

In the internal process view, the organizational performance is evaluated under the quality and the efficiency related to our product or processes related to it.

The organizational capacity perspective considers those “intangible” assets of an organization as the human capital, infrastructure, technology, culture.

Such a relevance is covered by the measures or KPI. In fact, for each objective, it is assigned at least one measure. KPIs are indicators of effective progress toward an outcome. It is for this reason that a KPI must be built in the most appropriate way possible: it can give the possibility to understand the gap between actual and targeted performance and see the effectivity and efficacy of the organizational processes and operations.

In building a robust KPI, a manager has to remind some features:

- 1) Delimitate an objective path through which seeing the strategy alignment;
- 2) Build benchmarks to calibrate the performance change during the period;
- 3) Create a common understanding for employees of what is important for success;
- 4) Give a common communication register to better the processes of data transmission between people;

5) Reduce intangible uncertainty.

In our theoretical framework, the necessity of tools as balance scorecards are vital to implement a complete revolution in the organizational context and, furthermore, in the monitoring of an effective change in the mind-set and also in the operational way.

### ***1.5.2. Advanced Human Resource Tools: Multisource Feedback with Ad hoc Tools and Performance Monitoring***

In every context in which a new implementation starts, tools are different also maintaining the same rationale in the building logic.

The example is given by the area of HRM in which it is mandatory to receive feedback from different point of view inside the organization.

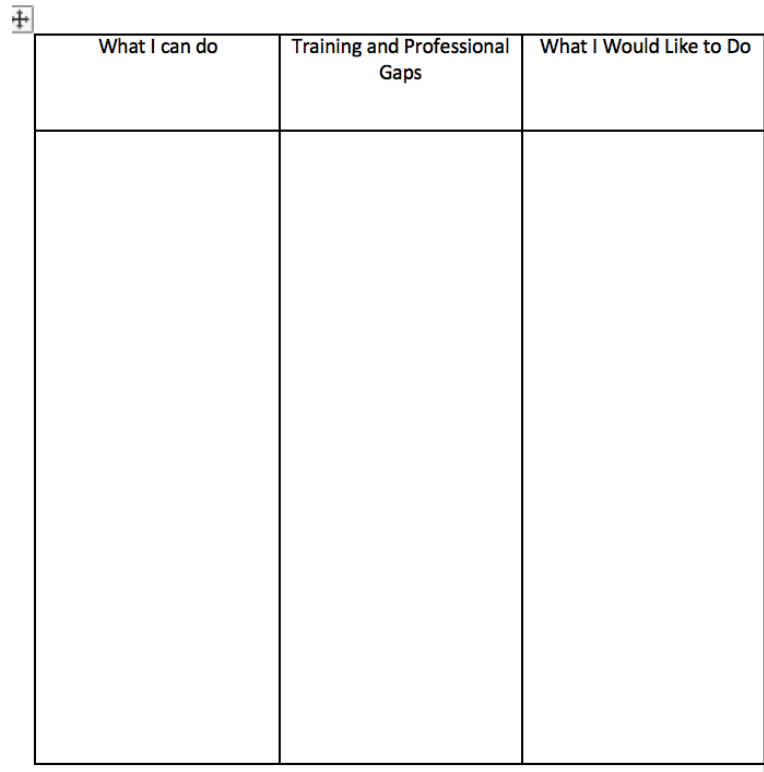
In fact, in the Multisource Feedback application, the importance of the creation of some tools is fundamental for the goodness and credibility of the feedback.

In our specific case, it is useful to analyze the perspective from which the feedbacks are taken:

- an auto-evaluation point of view;
- an external point of view;
- a communication and problem-solving point of view.

In the first case, the specific tool was created by the HR Manager and it was called “Schema a Tre Colonne” (Three Columns Scheme). This scheme is composed by three columns where the subject has to write what he/she thinks about his/her own capabilities, weaknesses and strengths. In the first column the candidate will write at least five things of what he/she is capable to do in the business context. In the second column the candidate will fill with his/her own training and professional gaps and the last column will be filled with the desires for the future or in a general sense (Fig. 1.6). It is important to create

the optimal mind connection to complete the left column firstly, then the right column and finally the central column.



What I can do	Training and Professional Gaps	What I Would Like to Do

**Fig. 1.6** “Three Columns Scheme”

From this scheme feedbacks, we can analyze what a person really sees of his/her professional background and potentialities. In a managerial point of view, this approach is strategical to exploit the real value of a human resource and to understand the eventual gaps to fill at every level of the organization.

In the second case, it was developed a useful instrument to apply both in the auto-evaluation of the person and, also, in the external evaluation from the partner in the same area or in different areas of the same organization. This tool is the “What you think of me, what I think of myself” (Sgarro L.) (Fig. 1.7). As we can understand from the name, this is a strong tool to analyze the trustworthy opinion that a worker has of his profile combining with his collaborators’ opinions. This powerful tool

of evaluation derived from the Johari's window: a tool created by Joseph Luft and Harry Ingham in 1955 to observe/act in communication situation with interpersonal, group or between groups dynamics.

What you think of me, what I think of myself

Name						
Attribute						
Attribute						
Attribute						
Attribute						
Attribute						
Attribute						
Attribute						
Attribute						
Attribute						
Attribute						
Attribute						

Notes about me:

---



---

**Fig. 1.7** “Scheme What you think of me, what I think of myself”

In the third case, great importance is given to the communication among people and their capability of solve problems (the famous but rare to find problem-solving).

Generally, when a problem in communication is detected, there are a lot of problems at operational and process level inside an organization. In this specific case, this problem is managed through the effective use of a method called Process Communication Model (PCM). This model was created by Dr. Taibi Kahler and it is considered the world’s premier tool that is based on human behavior. It is an effective system to create a consciousness of a people (generally a manager inside an

organization) to observe and understand his/her own behavior, to understand the behavior of others and how to communicate with them and to analyze conflict and miscommunication and know how to find a resolution and a creation of an effective communication. It is used by more than one million of people all around the world.

In the problem-solving, it is really difficult to understand a good problem solver. One of the method developed by the HR manager in our context is that of the “Two Puzzles Test”. In this test a person must solve AT LEAST one puzzle from a basket of two very simple puzzles. It is important to know that both the puzzles lack of one piece on purpose. When the time runs out (related to the difficult of the puzzle, about 10 minutes in our case), the candidate could have finished facing a “shocking” situation. That is the time in which the moderator of the test proves the real capabilities of the candidate asking for solutions at the problem faced. Generally, it is proved that there are at least three solutions at every problem and the candidate should give at least three possible of them in this case. It is as much important for the responsible of the test to focus on the behavior of the participants in the middle of the resolution because some tendencies of the problem-solving of each of them could be observed in this type of situation (for ex. a visual approach to problems, a multitasking approach, etc).

All of the previous described tools are the structure for a complete profile of every actor in the organization mixing three different point of view unified to the capability to communicate each other.

In addition to the Multisource Feedback, essentially created for checking, improving and discovering some capabilities, there is another tool to monitor the performance of each individual: the KPI table.

This tool is created to control the real efficiency of an individual, measured under some specific value called Key

Performance Indicators. These indicators are built by the management that assigned each of them to specific area and specific roles (for ex. a Key Account Manager faces an indicator to his/her competencies to create offers and contracts). All this area of monitoring is commonly denominated as Performance Monitoring or Performance Measurement.

This “complex” system of monitoring is necessary for the management to create a right consciousness of improvement area in the firm and to make a future efficiency a real point.

### ***1.5.3. PDCA Tools: The Four Areas***

As the acronym says, PDCA is composed by four main steps: Plan, Do, Check and Act.

For every step there are some tools to develop in this situation.

For the first step “Plan” the main tools are the following: Business Plan, the Budget Table and the Scheme of Objectives made by the General Manager (personalized balanced scorecards).

For the second step we can find the following instruments: An Operational Plan, the Internal Procedures, the Schemes of the Detection of Training Needs and the Functions Chart.

In the check phase the main characteristic of the tools is the capability to monitor processes and people. In this case the main tools are: the Excel tables of the Finance and Budget Control (Management Control) like the Cash Flow Table and the Orders table, the Attendance Table and the Feasibility Table of the Offers by the sales department.

Finally, in the last step, we have some tools to give efficacy to the previous steps. Now we have tools like Quality Book, the guidelines for the final offer model.

As we can see, a de-structured firm should “change” its mind-set through the help of several processes and tools to



become an effective and efficient organization to act in an unpredictable market as the Italian ICT market, always in a “lean key”.

## Chapter 2

### Analysis of the Research Problem:

#### Fast-Growth Management and Lack of Planning

*"Growth is never by mere chance;  
it is the result of forces working together."*

— James Cash Penney

In this elaborate, one of the focus points is the management of that growth: even if from a point of view it is an advantage for a firm, but, if it was not well-managed, it could create serious problems to the continuity of the activities. In fact, without a proper structured organization, some firms could not manage the numbers of growth in a proper way, transforming that overcapacity in something disruptive for the business. Linked to this fact, management has the hard role to understand the real needs of the organization, managing a right path through what a firm can grow in a balanced environment. A lot of companies face growth management with no innovative strategy than the old ones that they had when they were new. Sometimes some of these companies may pour on new capabilities and knowledge when it is not the right time, anymore.

Cusumano and Von Krogh stated in 2001 that the key for a long and healthy corporate life is steady growth. To admit a steady growth a company has to learn how to scale up and improve its business, create new knowledge and apply it to products and markets before its competitors. Nothing is left to chance, especially from managers. The growth plan must consider many aspects from the sales to the products and customers target. It has an internal focus and it has the goal to help a company exert more control over its fate. Implementation is easier for startup but, anyway, possible for established companies.

Another point of focus is the lack of planning coming from fast growth stages.

## **2.1. Rapid-Growth Firms: The Four Main Areas to Achieve and Maintain Growth**

Generally, rapid-growth firms are defined as firms with a 3-year compound annual sales growth rate of 80% or above (B. R. Barringer et al, 2005). This growth is also a fair indicator of firm success and its related indicators.

Although all of positive outcomes, rapid growth is something so difficult to achieve and especially maintain. Following a study, only one firm on seven generates sustained and profitable growth (C. Zook and J. Allen, 1999).

Citing the Barringer et al.' work, the four most influential categories of variables regarding the ability to achieve and maintain rapid growth are:

- 1) Founder characteristics;
- 2) Firm attributes;
- 3) Business practices;
- 4) HRM practices.

Following their study, we can find that the process of growing is a management challenge. Even Start-ups should work to include individuals that have personal characteristics that help a firm achieve and maintain a rapid-growth rate.

As shown from an examination of more than 100 articles, book chapters and books about firm growth and performance the literature highlights four major areas: founder characteristics, firm attributes, business practices and HRM practices.

### ***2.1.1. Founder Characteristics: The Importance of the Entrepreneurship***

Great importance is taken by the role of the business owner and his/her firm growth.

Between this relationship there are at least three reasons.

Firstly, the founder creates a unique personal direction in the firm, influencing cultures and beliefs (J. W. Mullins, 1996).

Secondly, the attributes of the founders are well-analyzed by investors and other in assessing a potential new venture.

Thirdly, individual difference variables have been found to be critical in successfully launching a new firm.

Without any doubt one of the main consistent predictors of future entrepreneurial performance is considered the prior entrepreneurial experience by B. Singer (1995). In fact, experience helps owners to understand in advanced each necessity to go on a start-up avoiding costs and creating a distinct advantage.

### **2.1.2. Firm Attributes**

Another important aspect in the literature of firm growth is that about the relationship between firm attributes and growth. From these attributes we can find: growth-oriented vision, commitment to growth, planning, interorganizational relationships, an opportune geographic location and a focused strategy.

When we talk about a growth-oriented vision, we mean a vision, mission or values statement that helps to fix the importance of growth and ensures that decisions are with specific growth mind-set (W.C. Kim and R. Mauborgne, 1997).

Regarding commitment to growth, it means the extent of the effort to growth as an objective.

Among the interorganizational partnerships we find joint ventures, networks, alliances, consortia, partnerships, associations and interlocking directorates (B. R. Barringer and J. S. Harrison, 2000). With a participation inside one of these partnerships brings an acceleration in a firm's growth by providing it access to its partner's resources (S. M. Braggs, 1999).

About planning, literature says that firms' conscious plan increases their chances to growth objective.

### **2.1.3. Business Practices**

There are several key business practices to underline successful rapid-growth firms.

One of these is creating unique value for customers: the ability to create unique value is an important factor for achieving and maintaining rapid growth (W.C. Kim and R. Mauborgne, 1997).

Another one is the superiority of the product or the quality of a firm (J. Harrison and B. Taylor, 1997; J. B. Roure and R. H. Keeley, 1990).

An aspect linked to the creation unique value is innovation and also the R&D. This represents another important business practice to maintain growth.

### **2.1.4. Human Resource Management Practices**

In this final category we are going to analyze the HRM practices. Being a firm's employees considered critical resources in the achievement and maintenance of rapid growth, the optimal management of these resources must be effective to rapid growth.

Selective hiring is one of these practices. In fact, one the priority for rapid-growth is the selection of proper staff for organization.

Another fundamental practice is the performance-based incentives (for example profit sharing and bonus plans). These incentives are aimed to help firms attract (T. R. Zenger, 1992), motivate (S. B. Landau and G. S. Leventhal, 1976), retain (J. T. Rich, 1999), and increase the productivity of employees (M. Weitzman and D. L. Kruse, 1990).

## **2.2. Lack of Planning in Small Business**

Following the Miller's work (1983) small businesses, as in this case, are generally managed by owner-managers and the power is centralized. It causes that firm strategy derives from an intuitive sense rather than an analytical one. As Kelmar and Noy (1990) stated, some of these small business leaders proceed in an unstructured and irregular strategic planning activities. Moreover, some of these small business planning functions could follow ad hoc and informal planning, unsystematic and fragmented. Why? A lot of times because of scarce training, not proper skills, lack of time, and the "fear of bureaucratization". Sometimes, owners consider planning not fundamental, unnecessary.

Without any doubt, top managers have a crucial role in the running of smaller business more than in a big one. Often, these managers proceed in an unsystematic way of planning activities inside their organizations. As Doukidis et al' mentioned (1996) in their work, planning in the small firm has some of these features:

- 1) Modelled by an ad hoc basis;
- 2) Coming from a mental analysis and activity of the leader/owner;
- 3) Rigid, informal and often closed;
- 4) Sometimes based on advices from some owner's collaborators with less experience.

As a consequence, in a process of growth inside a SME, it is important to create a structured and formal model of processes, activities and planning.

### **2.2.1. Formal and Informal Planning in SMEs**

Studying one of the earliest Thurston's assessment (1983), we can note that the key inside business planning topic is not about a business engaged in formal planning, but about some features such as owners/managers' administrative characteristics and capabilities, the complexity of the business and the pressure of the competition inside the market, the top management's expertise in development business planning, and the cost-benefits of planning.

As stated by Unni in 1984 most small firms do not produce a written business plan, and moreover many owners do not have enough business-planning skills. Furthermore, managers inside small firms do not have focus on sophisticated approach to formal business or strategic planning (A. Woods and P. Joyce, 2003).

However, we can affirm that owners/managers are aware of their strategies and often could realize the consequences of their choices.

It was observed that strategic planning sophistication is higher in entrepreneurial organizations (C. H. Matthews and S. G. Scott, 1995). However, they observed, also, that the more environmental uncertainty increased, the more planning sophistication decreased.

About a study of fast growth family owned businesses, it was noted that most had formal business plans. This type of firms regularly shared information with their employees and linked their performance to business goals. Strategy and business plans are informal and may be influenced by the uncertainty they face and/or the managers' expertise.

### ***2.2.2. Business Planning and Performance in Growth Stages***

There were some attempts to measure the benefits of formal strategic planning on small firms. One of these, by Robinson et al (1984), proved that benefits of strategic planning were not dependent to the stage of the development and that the impact of planning differed across these stages.

Another study observed that basic operational planning had a positive impact on performance, but this impact was thin over time (D. L. Sexton and P. Van Auken, 1985). However, it can be concluded that planning was more beneficial in a long view term than in the short view (T. Mazzarol et al., 2009). Furthermore, formal planning helped SMEs in taking better strategic decision (M. A. Lyles et al., 1993), even if they concluded the process of planning was more important than was the plan itself.

In next studies, it is showed that planning appeared to be stimulated by complexity coming from environment and organization.

Beneath there are evidences for the positive correlation between performance and planning, it is not the same for formal planning and performance, specifically about financial performance, in which the relationship is unclear. Bhide (2000) discovered successful entrepreneurs were unlikely to have formal planning in the early stages of their business development. A great importance is given to the entrepreneur's ability to drag the firm through his/her selling skills and communications ability to ensure strong market position in some particular industries.



## Chapter 3

### Settings: The Context of the Firm, the ICT Market

*“Customers buy for their reasons, not yours.”*

*- Orvel Ray Wilson*

Our case study will be towards the Information and Communication Technology (ICT) market, particularly in the Italian ICT market. In this chapter we are going to create a description of the settings for this type of market, providing details on the environment in which the company is moving.

Starting from the evaluation of the ICT numbers in the global context, we will focus on the actual situation and the composition of supply and demand in Italy.

The analysis of the settings is fundamental to understand the needs of the actors inside this business, considering every point of view: from suppliers to customers, from the system integrators to the main vendors and carriers.

#### **3.1. The Information and Communication Technology Sector: Definition and Numbers in a Global Perspective**

The term Information and Communication Technology can be found in some academic studies since 1980s (W. H. Melody et al., 1986; R. Silverstone, 1991).

Considering the ICT as the study of technologies used to handle information aided to communication, the term with its abbreviation ICT was probably coined for the first time by Dennis Stevenson in 1997. He reported this neologism to the UK Government subsequently promoted by the new National Curriculum documents for the UK in 2000.

ICT or Information and Communication Technology (or technologies) is that world including the infrastructure and components that enable technological communication.

It is possible to find several definitions for this term. In general ICT is referred to all devices among which it can be found networking components, complex systems and applications that allow the interactions between people, organizations, governments in the digital revolutionary world.

So, in the ICT sector, every technology is about integrated systems of telecommunication (wired and wireless communication lines), computing, software, that grant to the people an access in the creation, stocking and exchanging of data.

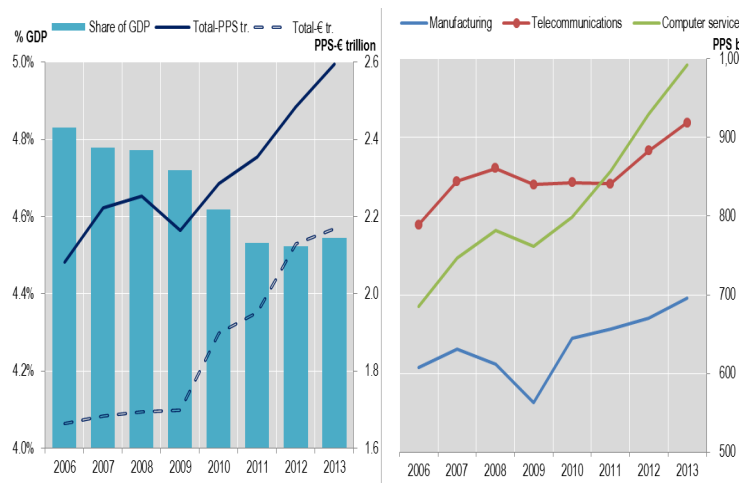
Generally, the ICT market presents huge investments and incomes all around the world. For example, the money spent in the IT worldwide is about \$3.5 trillion in a continuous process of growth (about 5/10% per year). Especially in the corporations' context, the IT investment is growing, underlining the importance of this segment at every level of the society.

Catching data from some studies of the European Commission's science and knowledge service (EU Science Hub) on ICT Research&Development, we can show some numbers of this market in the main 40 countries of the world (in this study there are three main components in which the ICT sector is divided: Manufacturing, Telecommunications and Computer services):

- 1) Value Added; meaning for this the difference between the Information and Communication Technology sector gross output and intermediate consumption (OECD). Observing the ICT sector in 40 countries in 2013 (the 28 EU countries plus Norway, Switzerland, Australia, Brazil, Canada, China, India, Korea, Japan, Russia, Taiwan and the USA), we can observe that it created a value added of about 2.2 trillion euros corresponding to

slightly more than 4.5% of the surveyed countries GDP. As it said before, the annual growth rate at current prices stood around 5% (Table 3.1), as in the previous year (confirming a steady growth). In recent years the situation is softly moderated (for 2014) with a new boost in 2015 with the entry of some emerging service activities and software;

- 2) Composition; IT services (computer services) are the most dynamic and also the largest aggregated ones, not suffering crisis and with a value added of 1 trillion euros. The slowest aggregate in value added was Telecommunications because of slack of growth (and, in some cases, negative growth) (Graph 3.1);

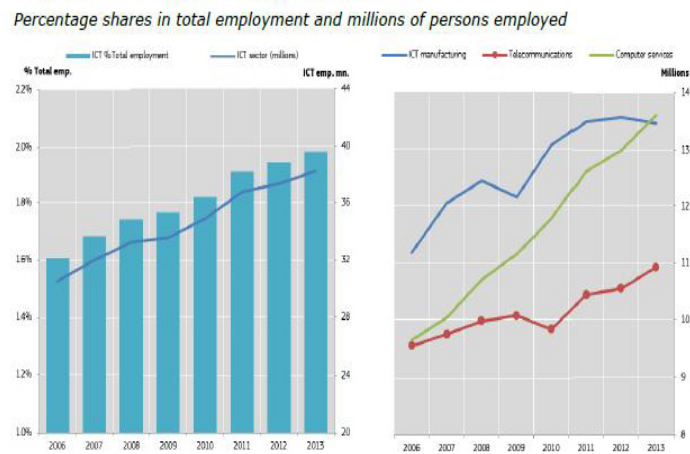


Source: EU Science Hub

**Graph 3.1**

- 3) Employment; differing from the rest of sectors, the ICT economies employment was resilient to the crisis growing at a faster rate than total employment (yearly increase of 2.4%; the whole economy has, instead, a 0.6%). Confirming the previous tendency in added value numbers, the Computer Services constituent was the most enlarged even if all the employment economy was

grown during the last decades. In 2013 the industry of Computer Services reached about 14 million workers.



Source: JRC, PREDICT Database (May 2016)

### Graph 3.2

4) R&D; for what concerns the business expenditure in R&D (BERD) this group of 40 countries accounts for about 90% of global BERD. In 2013 the expenditure for R&D inside the corporates of these countries was about 175 billion euros.

Analyzing the data provide by the OECD about more recent years (in this case 2015), we can show the following results:

- 1) ICT investments (Table 3.1); in this section we find all of these countries who own the largest percentage of investments in the sector of ICT. In the ranking, it can be observed as Netherlands (even if it is not one of the largest country in the basket of countries) awarded the first position in 2015 (with an increasing trend from 2000 to 2015). Differently the two major countries for investments in this sector, in the past, USA and Sweden, have started a decreasing way.

	2007	2000	2015
Netherlands	13,69	12,78	17,25
United States	15,10	18,87	15,56
France	12,14	13,29	14,64
Czech Republic	12,16	11,76	14,55
Switzerland			14,53
Sweden	15,82	22,37	14,47
New Zealand	11,43	14,05	14,33
Denmark	11,53	12,58	14,02
Austria	11,98	13,00	13,70
United Kingdom	11,40	14,09	13,39
Japan	14,35	13,88	13,07
Portugal	9,80	8,99	12,83
Greece	6,46	8,75	12,52
Israel	11,35		12,26
Belgium	10,77	11,97	12,05
Italy	9,29	11,47	11,85
OECD			11,20
Spain	5,86	6,66	11,13
Estonia	5,70	10,93	10,32
Slovenia	8,70	11,18	10,11
Germany	10,03	12,10	9,14
Canada	11,46	15,68	9,04
Finland	8,05	7,47	8,97
Australia	10,62	15,96	8,16
Slovak Republic	10,85	6,98	7,71
Korea			7,45
Ireland	3,99	6,46	7,32
Latvia			7,03
Norway	6,86	10,16	6,78
Hungary			6,34
Luxembourg	8,47	13,10	5,49

Source: [OECD Digital Economy Outlook 2017](#) - © OECD 2017

**Table 3.1**

2) BERD (Table 3.2); concerning the business expenditure on R&D intensities we find Israel as one of the most innovative country on this sector (and not only). In this ranking the OECD considers the total BERD and also the two main components, ICT manufacturing and ICT services. It is considerable as Italy results on one of the lowest position, confirming a not so remarkable intensity on the R&D investments.

	<b>BERD intensity</b>	<b>Of which ICT manufacturing</b>	<b>Of which ICT services</b>
Israel	3,62	0,25	1,36
Korea	3,28	1,60	0,13
Japan	2,58	0,41	0,12
Switzerland	2,43	0,34	
Chinese Taipei	2,37	1,68	0,09
Sweden	2,28	0,47	0,12
Finland	2,15	0,85	0,25
Austria	2,10	0,14	0,13
Germany	2,01	0,25	0,11
United States	1,96	0,33	0,34
Slovenia	1,84	0,07	0,12
Denmark	1,83	0,03	0,17
Belgium	1,72	0,09	0,13
China	1,59	0,26	
France	1,45	0,10	0,17
Australia	1,23	0,02	0,11
Singapore	1,19	0,41	0,04
Ireland	1,12	0,11	0,36
Netherlands	1,12	0,10	0,12
United Kingdom	1,09	0,02	0,15
Czech Republic	1,06	0,01	0,17
Norway	1,04	0,06	0,25
Hungary	0,97	0,01	0,20
Canada	0,80	0,09	0,13
Italy	0,76	0,04	0,08
Estonia	0,69	0,03	0,23
Spain	0,64	0,01	0,07
Portugal	0,60	0,01	0,10
New Zealand	0,54		0,13
Turkey	0,44	0,02	0,12
Poland	0,44	0,01	0,05
Slovak Republic	0,33	0,01	0,05
Mexico	0,17	0,01	0,01
Chile	0,13		0,01

Source: [OECD Digital Economy Outlook 2017](#) - © OECD 2017

**Table 3.2**

3) Value added (Table 3.3); in this section the value added is divided into four voices, ICT manufacturing, software publishing, telecommunications and IT and other services. In this ranking, we can see the South Korea as the leader (but without data coming from the area “software publishing”)

	ICT manufacturing	Software publishing	Telecommunications	IT and other information services
Korea	7,18	n.a.	1,26	1,91
Sweden	2,44	0,44	1,24	3,19
Finland	2,22	0,15	1,18	3,35
United States	1,59	0,66	1,68	2,11
Estonia	0,78	0,02	1,84	3,36
Japan	1,74	n.a.	1,82	2,41
Czech Republic	1,53	0,28	1,38	2,68
Hungary	1,86	n.a.	1,58	2,36
OECD	1,38	0,33	1,55	2,15
United Kingdom	0,52	0,08	1,81	2,95
Ireland	1,65	n.a.	0,80	2,91
Germany	1,32	0,10	0,99	2,64
Luxembourg	0,17	n.a.	3,22	1,51
Netherlands	0,64	0,00	1,22	2,79
France	0,58	0,34	1,24	2,47
Switzerland	1,01	n.a.	1,24	2,23
Slovak Republic	0,90	0,04	1,46	2,05
Slovenia	0,77	0,01	1,54	1,97
Denmark	0,91	0,24	0,95	2,13
Latvia	0,33	0,01	1,52	2,32
Canada	0,34	0,31	1,8	1,58
Iceland	0,05	n.a.	1,30	2,61
Austria	1,06	0,09	0,9	1,92
Spain	0,32	0,05	1,7	1,74
Belgium	0,32	0,01	1,36	1,95
Italy	0,57	0,01	1,18	1,81
Poland	0,45	0,07	1,28	1,75
Norway	0,43	0,39	0,95	1,78
Portugal	0,27	0,07	1,61	1,23
Greece	0,17	0,09	2,39	0,45
Mexico	0,90	n.a.	1,75	0,11
Turkey	0,29	n.a.	1,31	1,09

Source: [OECD Digital Economy Outlook 2017 - © OECD 2017](#)

**Table 3.3**

- 4) Trends of revenues and investments (Table 3.4); ICT is confirmed to be a sector with an increasing pattern of revenues. In fact, analysing the trends, we can see that the only years with a negative performance were 2008/2009 and 2014/2015 in which the crisis damaged a lot of sectors. Differently, investments have not a linear degree of growth or decline. Seeing at every year that investments are influenced by several factors and they do not admit a linear pattern in their historical data.

	<b>Revenue</b>	<b>Investment</b>
1980	146,8	50,9
1981	156,8	50,9
1982	163,2	49,1
1983	173,5	46,1
1984	184,6	44,9
1985	202,5	52,5
1986	242,5	62,8
1987	286,5	72,5
1988	312,5	82,2
1989	320,6	85,9
1990	353,7	97,5
1991	382,5	107,2
1992	411,9	97,5
1993	436,3	106,7
1994	472,5	110,3
1995	545,5	129,7
1996	574,9	
1997	708,4	151,6
1998	726,4	163,7
1999	825,9	203,1
2000	901,8	237,1
2001	932,7	214,0
2002	952,8	147,7
2003	1.042,3	144,8
2004	1.121,2	166,5
2005	1.177,7	171,2
2006	1.215,2	193,5
2007	1.295,3	203,8
2008	1.345,8	207,6
2009	1.296,7	181,0
2010	1.308,7	179,1
2011	1.373,3	194,8
2012	1.341,2	198,0
2013	1.312,0	200,6
2014	1.324,0	202,9
2015	1.234,60	194,03

Source: [OECD Digital Economy Outlook 2017 - © OECD 2017](#)

**Table 3.4**



### **3.2. ICT: Risk and Key Features**

In the Euler Hermes Economic's (Allianz Group) 2018 Global Sector Report, ICT sector is presented as a medium risk rating market. This is to underline the stability and reliability of the sector context all around the world. It is expected sector revenues to increase by 4.4% in 2018 (against +4.3% in 2017).

The main drivers of revenue growth of ICT sector will be three:

- 1) The Internet of Things (IoT);
- 2) The Blockchain Technology;
- 3) The Artificial Intelligence (AI).

The first driver is vital for the future of the telecommunications, especially in the field of the 5G network development. In fact, a lot of Telco carriers are setting targets for the implementation of this type of connectivity.

The second driver is expected to become the mainstream part of every company's IT budget. Being a technology well-applied in several field, from trading to healthcare, it will consider the present and the future of every exchange of data in web.

The last, but not least, driver is the Artificial Intelligence based on the so-called Machine Learning. Practically, that technology applied to every future IT product.

As we have seen in the last paragraph, we conclude that the key players to consider are two: USA and China.

The first one is the first producer and the second exporter; the Chinese country, instead, results as the first exporter but the second producer (Euler Hermes Economic Research, 2018).

For what concerns the main strengths, they are summed-up in two main point (as the weaknesses). The first strength is that ICT is one of the drivers of the global economy; the second one is the dependence of the world from the increasing in the interconnected systems and objects (IoT). About the weaknesses, we find the first one in a boosting in the investment

needed for improving the data protection (one of the latest example is the EU directive of the GDPR). The last weakness is, instead, about the dominant position of the largest companies that own the majority of the global market.

ICT is seen as a high fragmented sector, respecting the other sectors, with a high market globalization. Due to the presence of high investments in the three main drivers, ICT is considered quite moderate market in the profitability side.

### **3.3. ICT: The Italian Sector**

In Italy, the ICT sector is composed by 102 thousand firms and more than 560.000 employees, especially in the north-west and center of the country (Assinform, 2017).

Essentially, the Italian market is focused on the segment of services. Following the global trend, also the Italian ICT market is addressing to new drivers as IoT, Clouding and Industry 4.0 thanks to the exceptional revolution of the Digital Transformation. In fact, it is for this reason that the sector is growing and, probably, is bringing a new hope in the Italian employment growth (even if the employment demand is oriented to highly skilled candidates).

Presenting some data from the Italian Digital Market, we can analyze how this sector is getting going again from 2016 with a revenues growth rate of 1.8% trespassing 66 billion of euros and consolidating a strong improvement of the market.

All these results are coming from the efforts of the Italian Industry 4.0 plan.

In the last report conducted by Assintel and IDC Italia, the ICT market confirms the positive trajectories growing by 3.1% (with a positive trend also for the 2018, about 1.9%) with a special boost from the new technologies. If we enlarge our view on the total ICT market, we can see how this sector produced a

value of more than 30 billion of euros in 2017 (including also the Telecommunications segment) (in details, table 3.5).

**Tabella 5: Mercato ICT in Italia, 2016 - 2018**

(Milioni di €)	2016	2017	2018	17/16	18/17
<b>IT</b>	<b>22.021</b>	<b>22.709</b>	<b>23.151</b>	<b>3,1%</b>	<b>1,9%</b>
Hardware	5.685	6.038	6.137	6,2%	1,6%
Software	5.705	5.877	6.083	3,0%	3,5%
Servizi IT	10.631	10.794	10.932	1,5%	1,3%
<b>Servizi di telecomunicazioni</b>	<b>7.570</b>	<b>7.450</b>	<b>7.390</b>	<b>-1,6%</b>	<b>-0,8%</b>
<b>Totale Mercato ICT</b>	<b>29.591</b>	<b>30.159</b>	<b>30.541</b>	<b>1,9%</b>	<b>1,3%</b>

Fonte: Elaborazioni IDC per Assintel Report 2018

**Source:** IDC for Assintel Report, 2018

**Table 3.5** “ICT Revenues, 2016-2018”

### 3.3.1. Industry 4.0: Driver of the Italian ICT

Industry 4.0 includes different technological segments:

- 1) Networking; giving the possibility to the machines to exchange data in carrying out actions and enabling functions;
- 2) Cloud Computing; root for the cyber space and the digital twin (rendering the physical farm environment or the supply chain mechanism in the digital environment);
- 3) Internet of Things (IoT); to create an interconnected environment between physical components and machines;
- 4) Connected Products;
- 5) Cybersecurity;
- 6) Additive Manufacturing/3D Printers;
- 7) Virtual or Augmented Reality;
- 8) Bid Data; the segment of prospect in the Industry 4.0 view with the introduction of Machine Learning and the Cognitive Computing.

In Italy, the attention to the Industry 4.0 has grown since the 2016 with the presentation of the National Plan Industry 4.0 (Piano Nazionale Industria 4.0) by the Minister Calenda.

The plan has several action lines:

- 1) Innovative Investments; incentives to the private investments in R&D and innovation;
- 2) Competence Building; diffusion of the Industry 4.0 culture, digital learning, skills development;
- 3) Enabling Infrastructures; Piano Banda Ultra larga (ultra-fast networking), standards of inter-operability of IoT;
- 4) Supporting Public Tools.

Moreover, through a plan of incentives in the acquisitions of innovative machines, robots, additive manufacturing, etc since the beginning of 2017, the sector has benefited of an additional thrust of growth.

So, it is quite obvious that the firms' attention is particularly addressed to the short-term investments in this new segment of the market.

Thanks to a study made by NetConsulting cube, it can be possible to observe that only the 22% of the manufacturing firms is not focused on the Industry 4.0 argument, the 28% of the firms is already operative and the last 50% is conscious of the Industry 4.0 potentialities but it is not operative.

### **3.4. Market Structure: Some Numbers and Descriptions**

Focusing in the IT sector (not including telecommunication services and wholesaling), the firms are 87.219, with average yearly employees of about 430.000, represent the 2% of the total active Italian corporates and the 2.7% of the total yearly Italian employment market in 2014 (Assinform, 2017).

The largest part of these firms are other IT services organizations (74%); the rest of the firms are software-related (22%) and hardware-related (4%).

The average firm dimension of the entire sector is 4.9 employees. The IT manufacturing firms are bigger with an

average number of employees of about 16 than the IT software-house firms (7 employees) and those of other services (3.9 employees) (Table 3.5).

<b>Ateco</b>	<b>Imprese</b>	<b>Addetti</b>	<b>Dimensione media</b>
Hardware	3.509	56.903	16,2
Software	18.795	138.550	7,4
Altri servizi IT	64.915	232.327	3,6
<b>Totale settore IT</b>	<b>87.219</b>	<b>427.780</b>	<b>4,9</b>
Totale settore Manifatturiero	403.456	3.659.293	9,1
Totale settore Servizi <sup>(1)</sup>	2.816.816	10.483.735	3,1
Totale settori non IT <sup>(1)</sup>	4.248.887	15.229.342	3,6
<b>Totale economia<sup>(1)</sup></b>	<b>4.336.106</b>	<b>15.657.122</b>	<b>3,6</b>

(1) Sono escluse le imprese finanziarie  
Fonte: Istat - Elaborazioni su dati Frame Sbs

**Table 3.5 “IT Sector: Employees”**

In the IT sector, the number of micro-firms (max 9 employees) results lower than the rest of the Italian economy; the situation is different for medium (50-249 employees) and big (>249 employees) organizations that in this sector own the 16% and the 29% of the entire sector.

### 3.4.1. Labor Productivity and Value Added

Examining the labor productivity (value added for each worker), the IT firms are more productive than the others. In fact, the sector produces the 3.7% of the value added in the total economy making an average productivity of about 26thousand of euros respecting the 18thousand of the other economical units. More than 40% of the value added of the IT sector is produced by 150 big enterprises with at least 250 employees (0.2% of the total number of enterprises of the entire sector).

The value added from the big five of the sector is equal to 15%. From the three segments, the hardware one is more concentrated: the 44% of the value added is produced by the first five biggest firms of the segment.

### **3.4.2. Lifetime of IT Firms and Characteristics of Workers**

Due to the characteristics of the sector (dynamicity, fast-changing, etc) the IT sector is characterized by an average lower age of firms than the rest of the sectors: 6 enterprises of 10 are maximum 10 years old against the 50% in other sectors.

The others IT services is the youngest segment: the 62% of the firms is at least below the 11 years old and the 42% is under the 6 years old.

For the workers composition structure is interesting to analyze how this sector is composed: as in other sectors, IT present the 59% of workers with masculine sex; a major percentage of women (49,4%) is registered in the IT services sector; the presence of foreign workers is very low (4.2%); the 67% of IT workers is in the age segment between 30 and 49 years old (about the same for all three segments). The number of graduate people is quite high (25,8%), essentially concentrated in the software segment (33,9%).

Geographically speaking, the largest concentration of IT key firms is in the regions of Lombardy (25%) and Lazio (about 12%).

### **3.4.3. Firms Structural Data**

In the after-crisis period, the Italian IT sector was one of the few sectors to create positive performance, exclusively in the segments of software and IT services. In a study conducted on 101 organizations between 2015-2016 by Assinform, it can be analyzed that, in the majority of the cases, firms obtained a positive management result. Nevertheless, the number of the firms in suffering has increased from a 7.2% in 2015 to 10.9% in 2016; even those firms with static performance have increased from 3.9% to 10.3%.

In the short-period, the economic prospects for the IT sector should be predominantly positive albeit the 21% of IT firms are not ready to give trusty forecasts on their performance.

The most performed segment is the software one, especially in 2015/2016. For what concerns next immediate periods, the IT services organizations would be the most effective (even if these entities have announced negative performance more frequently in the past). So, the software-related firms will determine the less vulnerable segment in the sector both from a financial and an economic point of view.

#### **3.4.4. Geographical Areas of Activity**

The activities location is principally national.

There is only one segment particularly inclined for internationalization: the software segment. In fact, the software firms tend to invest more in an international view than Service Provider firms (the last ones have a local/regional expansion for their geographical market).

It is interesting, anyway, to notice that international activities were registered for 2.3% of IT firms and that, in the short term, they would like to increase up to 10.4%.

It seems obvious that international affairs are not so influential yet. National activities are extremely important in the present (especially in Municipalities and Regions with a weight of 76.2% in some cases).

#### **3.4.5. Activity Categories and Main Supply Portfolios**

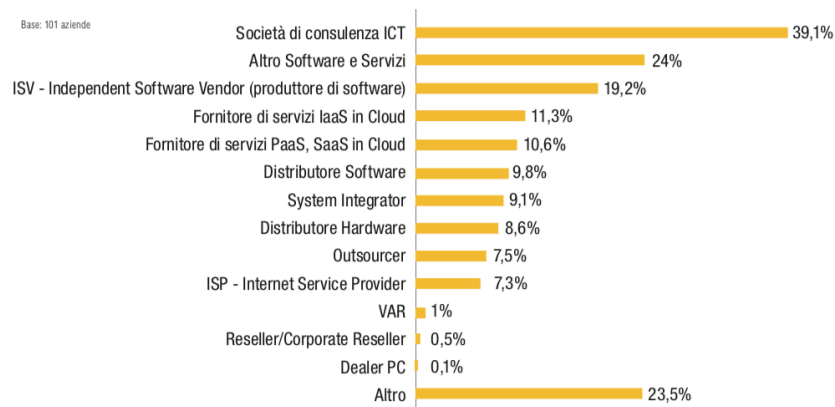
In Italy the main recurrent activity in the ICT market in 2015/2016 was IT consulting services providing (39.1% of the entire market) followed by software production (19.2%).

The first position gives an idea of how customers need to adopt innovative solutions and to know other forms of support for their activities.

The market is composed also by other types of activity:

- 1) Cloud Computing; 11.3% for IaaS and 10.6% for PaaS and SaaS;

- 2) System Integration; this activity is present in the 9.1% of firms' portfolio;
- 3) Distribution; 9.8% for software products and 8.6% for hardware and related products;
- 4) Outsourcing; fundamental for the 7.5% of firms;
- 5) ISP or "Internet Service Provider"; 7.3% of IT firms;
- 6) Other Type of Activities; they represent the 23.5% of firms' activities and between them there are help desk activities, data processing, organizational consulting and document management.



Source: NetConsulting cube for Assinform, 2017

**Graph 3.1 "Italian IT Firms' Activities: 2015/2016"**

### 3.4.6. Targets and Markets

Generally, Italian IT firms are directed to target coming from the SMEs segment operating in Industry, Trade and Services and in fewer cases to target coming from bigger enterprises of the same sectors.

Among the targets coming from the other businesses, we find the sector of Finance (especially insurance), Telco and Media, PA (Public Administration) especially local PAs.



### **3.4.7. Sector Prospects and Drivers/Obstacles to Growth**

If we consider the two segments of software and IT services, forecasts appear optimistic. In fact, it is expected an increase of revenues in the 78% of the cases already at the end of 2017: 28% with stable growth or lightly growth, 24% with growth between 2.5% and 5% and 26% with increases higher than 5%.

The most positive forecasts come from the bigger firms with a number of employees higher than 250.

Two elements are the most influential in the positive prospects of the segment software and IT services:

- 1) The positivity around the improvement of the Italian economy;
- 2) The strong propension to the digitalization of internal processes inside firms and PAs.

These drivers create consequently several linked drivers that will sustain the growth of the future demand.

In contrast there are negative drivers that could determine a negative trend in the future demand:

- 1) Limited Budgets; it can be a limit in technological investments;
- 2) Uncertainty on Economy Scenario;
- 3) Lack of Culture at Top Management's customers Level; it influences the propension of customers in investing in technological projects;
- 4) Lack of Professional Figures; this comes from a general lack of competencies inside the firms that provokes a delay in digital sectors;
- 5) Differences in Project Management in the Digital Sectors;
- 6) Uncertainty about New Contractual Forms for New Services;
- 7) Low Levels of Orders and Production.

### **3.4.8. Positioning**

Actually, Italian IT firms do not recognize a stronger competitive positioning compared to competitors; 66% of the IT sector believes to have an aligned positioning to the principal players of sector.

In the segments, it is in the software one where firms perceive a stronger positioning especially in those cases in which an organization has a niche product.

Generally, firms link a better positioning to distinctive factors as the offer and mostly the offer quality. Others type of distinctive factors for these firms are also the adjustment of the delivery, production and development activities for particular demand needs, or the diversification of products and services, or price policies, or the introduction of new offering lines; these factors represent just a little part of the strategies adopted by firms in the positioning (between 49.5% and 27.2%).

## Chapter 4

### **The Business Case: Techno Center, a Small Italian ICT Company**

*“Small business people are people with goals and values that can't be calculated on a profit and loss statement.”*

- Linda McMahon

In this chapter we are going to analyse the practical data collected from the beginning of the introduction of a strategic planning (with lean methods) to the most recent periods. Starting from the presentation of the small corporate (business plan, context, growth, vision, mission), we will arrive to the overall of processes and tools previously explained in the theoretical chapters as the practical stages of the strategical planning.

Thanks to my stage experience inside this organization, I have had the possibility to obtain data continuously updated and directly collected.

It is mandatory to explain that the process of growth has started in the 2014, when the ownership's change has brought a revolution for the company business. Then in 2016, with an incredible push on revenues, it was forced to introduce a formal structured form and practices to manage the growth and the expansion of the organization. Until now, when the process of growth has become steady and the formalization has become fundamental for the right sustainability into the market. It is also important to underline the method that stands at the basis of the formalization: Lean Approach. Why this method? The solution is simple and complex at the same time. In fact, Lean tools allow a cut in wastes, especially time wastes and consequently money wastes. At the same time in a firm in which there are not

structure, rules and formalization, Lean can help to create a flexible way to bring order inside the organization but never without efforts and sacrifices by the management; without any doubt, especially in the growth phase, Lean admits a sustainable structure without burdening with an excess of bureaucracy the entire organization. This method can help the management to fulfil the purpose to create a unique solid organizational structure with a common strategy to settle a successful business to new customers and profits.

Finally, we are going to analyse which were the results of the strategic planning at every level of the firm (revenues, HR, wastes, performance, etc).

#### **4.1. Techno Center: General Description and Prospects**

Techno Center (T.C.) is a firm acting in the ICT market with a particular focus on the B2B segment of the telecommunications carriers. It is composed by a group of professionals with great experience in the sector.

It can be considered as a system integrator, an actor able to connect heterogeneous systems to create a final ready-to-use solution for customers.

Its legal form is the S.p.A. (Società per Azioni), the Italian legal form that stands for Ltd. This form, introduced in 2016 to underline the great expansion of the organization, permits to collaborate with several Italian big companies and Public Administration that require particular features.

Its mission is summed-up in the following quote:

“We want to use digital highway to connect to the future. We want to make businesses, things and people tasks more intelligent and sustainable.

We want to support our clients, helping them focus on their core business, while we will simplify

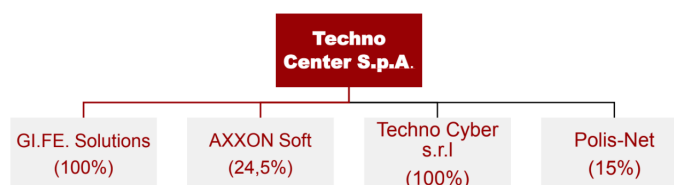
for them all the technological complexities related to systems and processes.

We respect all the rules, taking care of our staff career, so that the value we're creating will last in the future and it will testify our passion for things made properly.”

Its vision is about change and how to make the future through innovation.

T.C. is mainly a group (Fig. 4.1), in fact it owns shares of some companies:

- 1) 100% of Gi.Fe. Solutions, the operational firm of the group specialized in Global Services (networking, projects, video-surveillance systems) for ICT sector;
- 2) 100% of Techno Cyber, the innovative start-up operating in the Cybersecurity field;
- 3) 24.5% of AxxonSoft, the Italian branch of a Russian multinational operating in the Video Surveillance Software segment (Open VMS and PSIM platform);
- 4) 15% of Polis-net, a software-house with a specific expertise in the E-Health solutions.



**Fig. 4.1** “Techno Center Group”

The strategy to create a group, with different business offers, was revealed an effective way to produce completed, unique and integrated offer for customers in a single project (a problem that

can be created by this strategy is the lack of coordination and the linked problem of the creation of wastes in the enlargement of the size of the structure).

The main objectives to reach for the management for the next three years are:

- 1) Reduction of the business risk: reached thanks to the acquisition of the main supplier and the synchronization of the firm's policies and goals;
- 2) Business consolidation: through the completed acquisition of Polis-net; this brought a boosting in revenues in 2016/2017 yet;
- 3) Cost optimization: with the group formula and the incorporation of the main supplier can be avoid some costs;
- 4) Creation of a centralized organizational structure: to uniform and consolidate unique vision, mission and actions in a fast-changing market.

#### ***4.1.1. SWOT Analysis***

To understand better the Techno Center's points of strength and weakness, we are going to analyse its SWOT analysis.

What the management thinks is that the main internal strengths are the capabilities and experience owned by the organization's professionals. Others points of strength is the firm's values that determine a great level of coordination and uniformity in the vision of the employees and the possibility to offer a large line of services and products. Finally, the last point of strength is the customer orientation that can help to focus on the real customers' needs.

Concerning the external sources in which we can find the Opportunities for T.C., the list is variegated: from the Italian Industry Plan 4.0 to the European Funds for R&D, from the improvement in innovation investments to the National Operative Plans for Security.

Inside the internal point of view the main weaknesses are:

- 1) Small organizational dimension: this can cut some opportunities in which larger dimensions (revenues, employees, geographical expansion) are required;
- 2) Management structure to be consolidated: to reduce the risk of lack of control on the organization;
- 3) Employees' skills and training to be valued: to reach better performance and efficiency.

#### **4.1.2. Positioning**

The main targets for Techno Center are the following:

- 1) Small Corporates;
- 2) Big Corporates;
- 3) Public Administrations.

Concerning competitors of the Techno Center's global solution are those system integrators with similar size and skills.

If we consider the single entity included in the T.C.'s group, the discussion changes. In fact, different competitors exist for every firm (an example is the case of AxxonSoft Italia with Milestone Systems).

#### **4.1.3. Products and Services**

Being a system integrator gives the possibility to the product and service to build a solution for every customer's needs. In fact, T.C. creates every project organizing every single phase: from the needs analysis and assessment of the project to the feasibility study, to the design, implementation, testing and delivery.

The main domains of activity are the following:

- 1) Enterprise Applications;
- 2) Internet of Things;
- 3) Big Data as a Service;

- 4) Video Intelligence;
- 5) Cyber Security;
- 6) Global Services;
- 7) E-Health Solutions.

For what concerns Enterprise Applications domain, we mean every integrated solution for business conceived through software platforms that enable the integration of processes and applications of an organization in a single system.

In the IoT, T.C. designs and realizes IoT intelligent and integrated platforms that allow to build helpful tools in the lifetime of the organizational processes.

Big Data as a Service is related to the use of data science to support organizations.

Video Intelligence platforms are products able to transform audio and video signals into inputs; these inputs are consequently converted in knowledge thanks to a central intelligent analysis software.

About Cybersecurity field, T.C. uses high technologies solutions provided from some international partnerships.

In the Global Services (activity developed exclusively through Gi.Fe. Solutions) we can include all services of design and realization of electric, video and telecommunications installations (networking, security, plant).

The E-Health Solutions are a set of integrated solutions for the management of the clinical registry process for the public and private health sector.

#### **4.1.4. Organization and Key-Men**

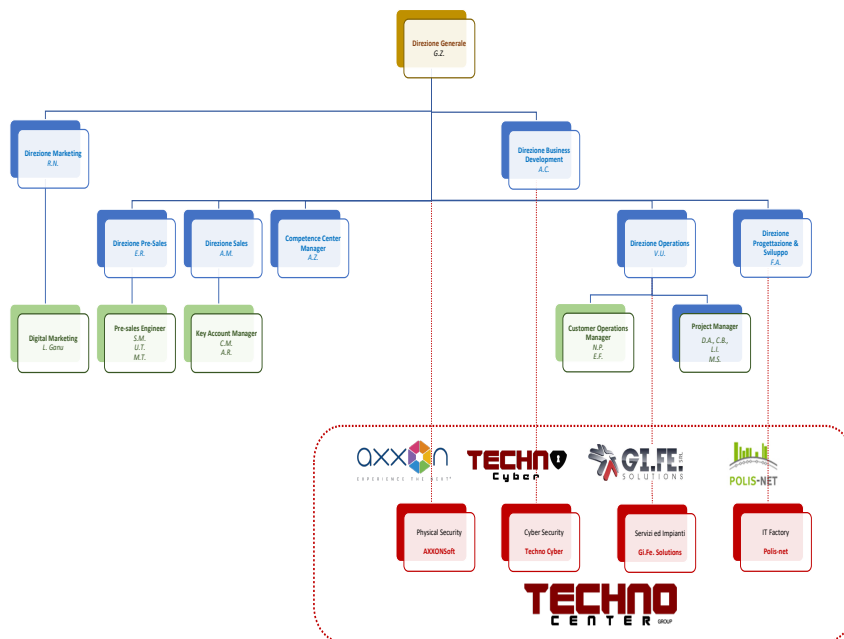
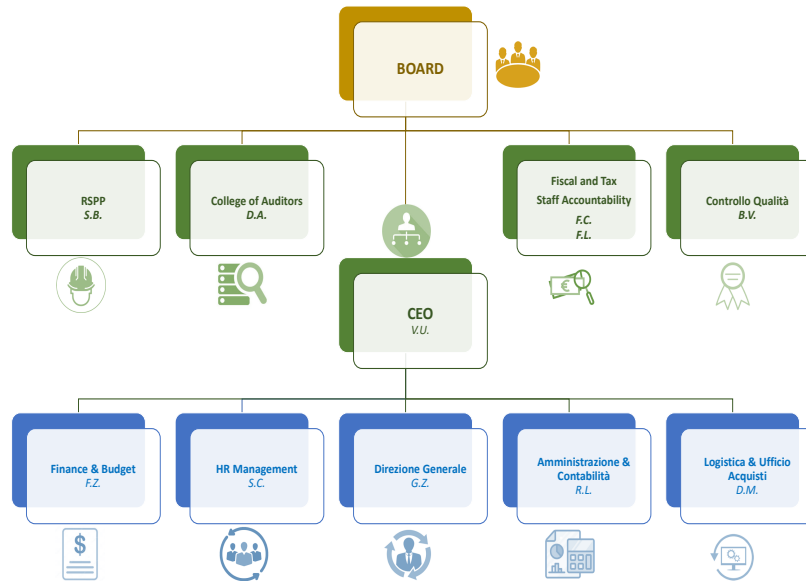
Considering the composition of the entire group the organizational chart becomes very complex.

First of all, we have to consider the complexity of the firms as a single entity; starting from this we will include all of employees.



It is not unusual that small and medium enterprises have key-men that enclose several roles. This is precisely the case.

Following the organizational chart (that in this case it should be called Functions Chart) we can analyse how the group is managed, and which are its key roles.



As it often happens, some functions are outsourced not to overload the financial and the business complexity. These functions are essentially the less strategical as the Fiscal and Tax Accountability Staff, the Quality Function, the Security Manager, the HR. In some cases, instead, some employees have double roles as the CEO, who is also the Operations Manager, or some key-men that come directly from the other organizations of the group, everyone under the same mother-company that is Techno Center.

To conclude this paragraph, we can underline the two main key-men of the firm: the general manager and the CEO.

It is important to understand that the term key-man is referred to people abled to influence the path and the direction of the organization and the resources inside of it.

#### **4.2. Research Problem: The Techno Center's Growth and Lack of Planning**

In the growth process, the different organizational functions modify the importance key weights to compete in the market (F. Guelpa, 2005). One of this is the top management and its efficiency in the organizational structure processes.

T.C. is a case of extraordinary growth in which lack of planning could cause damages and not to exploit the incredible boost coming from fast-growing phase.

When we talk of fast growth, it is referred to a sales revenue growth of about 70% in 3 years, one firm becomes a group of 5 organizations and from a one-site firm to multiple-sites firm located in several parts of Italy.

As it was said in the chapter 2, the maintenance of the growth is hard to achieve and maintain; and several factors can influence it.

Other focal aspect to analyse is the lack of planning, very common in SMEs organizations and that could become a determinant factor of success or failure.

In the following paragraphs, we are going to analyse these factors and we will understand the main points that have not been present in the organization and how the management tried to fill these gaps.

#### ***4.2.1. The Importance of the General Manager***

T.C. is the case of small company in which the presence of a key-man provided a specific direction and growth in its history.

In fact, since 2014, when the actual property changed completely the organizational asset, the General Manager was the main role in the process of growth. As it was confirmed by Singer et al., also in this case the previous business experience of the G.M. were key-point factors in the initial launch of the firm. Interviewing some people inside the firm, in fact, the largest part of the workers underlines the primary role acted by this figure and his business experience.

Thanks to his soft and commercial skills, and combined with the direct presence of the CEO, the firm could create the roots for the improvement and consolidation of a future solid structure.

Even if the importance of these key-men were high in the past years, now it is important to maintain this growth also with other factors that can help top management in controlling and coordinating the entire group in a steady growth path.

#### ***4.2.2. Firm Attributes: Between Internal Values and Partnerships***

As it reports in the paragraph 2.2.1. the values and the attributes inside a firm can be considered one of the most important way to grow for an organization.

One more time, the T.C.'s key-men played a unique role in spreading a common sense of team-working and goal-orientation; this is one of the boosting factors in the group consolidation and in the creation of a sense of belonging. This was essential to build a group of five firms with more than 40 employees.

Linked to the creation of a “big team” inside the organization, another fundamental aspect was the creation of a group through partnerships and acquisitions that produces an acceleration in the process of growth (see also S. M. Braggs, 1999).

#### ***4.2.3. Business Practices: From Product Excellence to Some Inefficiencies in the Internal Processes***

In the reach of sustainable growth business practices as the superiority of the product and the creation of a unique value are fundamental. Even innovation is an incremental factor to create a unique proposal to customers.

All of these factors are well-traceable in Techno Center: from their unique solutions made through the creations of integrated solutions made by the collaboration of several partners inside the group that gives the possibility to reach customers' satisfaction.

Sometimes some inefficiencies could emerge in the achievement of these practices; they are caused by problems in communication methods or in difficulties in coordination and collaboration when some procedures do not exist. In these cases, formalities are useful to create flexible way to communicate and thinning the business practices and consequently business proposals.

In fact, one of the highest concerns of the top management was the lack of planning and bureaucratization of some important activities inside the group (for example the creation of

written offers, the process and timing in the approval of purchases, etc).

#### **4.2.4. Human Resource Management Practices**

Sybil F. Stershic, in her book “*Taking Care of the People Who Matter Most: A Guide to Employee-Customer Care*”, affirmed “The way your employees feel is the way your customers will feel. And if your employees don’t feel valued, neither will your customers.”

This is to underline the importance of employees and, consequently, the HR practices. In Techno Center there was a lack of structure in the HR area and practices that brings some problems and failings in employees hiring and satisfaction. In an initial phase, this problem can be avoided by the ability of top management but, in a growing structure, it could be very difficult to keep under control these features without proper insiders and ad hoc practices.

#### **4.2.5. Lack of Formal Planning**

As we have seen in the second chapter and a lot of studies confirm, the lack of strategic planning is a frequent phenomenon in small organizations (R. B. Robinson & J. A. Pearce, 1984; D. L. Sexton & P. Van Auken, 1985; J.A. Berman, D. D. Gordon & G. Sussman, 1997; B. J. Orser, S. Hogarth-Scott & A. L. Riding, 2000; W. R. Sandberg, R. Robinson & J. A. Pearce, 2001; G. Beaver, 2003). Planning is often a consequence of the entrepreneur’s vision and experience. In those cases, strategic plan is informal, given by people without a formalization process. The problem is that by avoiding strategic planning, small companies could not achieve full performance and growth esponentials (M. Berry, 1998).

In the T.C. experience, in the first years of business life, the management decided to focus on business practices and values to build a competitive advantage. As we saw, they succeed in creating a solid organization, well-accepted by the market with a solid and fast growth process.

At the question to employees: “What do you think it is necessary to improve working life and business processes?”, the 80% has complained a lack of a formal planning to avoid some inefficiencies in the strategic processes.

Analyzing the cycle of business, I have tried to understand where and when factors against strategic planning emerged. Taking important examples from the Wang, Walker and Redmond’s study (2007), I analyzed the main barriers to strategical planning in Techno Center’s situation:

1) Lack of Time; it was created by the speed of the market and growth of the firm;

2) Environmental Uncertainty/Turbulence; one of the most important factor of the ICT market is mainly the uncertainty around SMEs;

3) Size of Business; initially a small business is not addressed to a specific goal, but the only purpose is to grow up and build a solid structure;

4) Internal Implementation Barriers; given by a centralized and unique direction (from the entrepreneur or in this case the G.M.);

5) Business Life-cycle; generally, in a “in development” phase;

6) Inadequate Knowledge of Planning Processes; or sometimes a particular focus in other aspects of business organization.

As the study concludes, SMEs do not strategically plan because, often, they do not pursue a maximization profit goal (especially in the first part of their life).

The analysis of the points cited above was the start for the management to apply a revolution inside the organization; this revolution is first of all represented by a formal strategical planning. Starting from an appeal to external HR and marketing consultants to the formalization of some procedures, the management wanted to create a formalization and implementation of the strategical plan at every level of the organization.

In the next paragraphs, we are going to describe the operational tools results, previously described in the first chapter in a mere theoretical way.

#### **4.3. Operational Tools in Practice: Data and Methodologies**

In this section we are going to present data and tools through which the T.C.'s formal plan was meant and put in place. The process to formalization of the strategic plan has started in 2016 and now it is still operational. This process was born for a necessity by the CEO and G.M. to overcome the general tendency of SMEs' owner-managers to pursue only primarily personal, non-efficient goals and so to limit the business performance (M. R. LeCornu et al., 1996). They would create a structure of "best practices" to guide the organization to an improvement in the performance, business processes (especially inside the structure) and to maintain a steady growth in the future.

Beginning this process of strategical formalization, the first steps were to hire two external consultants with expertise in strategical/managerial practices; moreover, these consultants have created the two lacked areas: marketing and HR.

It was important the change brought by these two areas both mentally and strategically speaking. In fact, the first changes applied by these areas were a drafting of a business plan (fundamental to fix vision, mission and so the strategic point of view shared in the firm), the editing of the workers' profile through specific assessments and the creation of some procedures targeted to improve some deficient areas (HR, marketing, finance and budget control, R&D). During all the process of implementation of the strategic planning, I would like the constant presence of the PDCA method to re-call the continued use of the scientific method, especially in business context as this one and how the time management was always represented by the tendency to avoid wastes (Lean approach) in every not effective process. In fact, with reference to paragraph 1.5.3., the ratio behind the operational tools can be understood from the theory and, in the next paragraphs, from a practical and pragmatic point of view.

#### ***4.3.1. Multisource Feedback and HR Procedures: Focus on Intangible Assets***

One of the new born area in Techno Center was the Human Resources area. To build a solid basis on human resources, the consultant started to schedule assessments for all the workers inside the company (and the group) to catch every detail of the personalities among the organization as a first step, and to create procedures to encompass some bad attitudes and behaviors (lack of a recruitment process, no communication of permits and diseases, lack of a training program, misunderstanding reimbursement expenses format and modes).

As we saw in the first chapter, the relevant tool for the assessments was the Multisource Feedback through which surveying three level of a worker's feedbacks and so to understand employees' strengths, weaknesses and needs: a self-



verification, an external verification and a communication and problem-solving verification.

The assessment process is not already finished (for the lower levels of the organization), but we can sum-up some profiles' features:

1) Management: considering the entire group management (with its complexity and owned firms), we can count six personalities extremely different. The most energetic profile has emerged in General Manager's profile (the most important person in this organization from the other managers' assessments and opinions). He is seen as the most capable commercial personality and the most charismatic one. Even from the lowest level employees, he is reported as the leader obtained through his capacity to embolden every worker and to his previous working experiences in high level contexts. So, in the assessments, we can recognize in him the figure of "owner-manager" that guides and drags the organization to results and gains (it is interesting to see that also the other managers have this description about him in their assessments). Generally, it can be summed-up the profiles in some common description: a general tendency to great previous experience in the origin field of competence, a strong believe in the G.M.'s capabilities and a unified believe in the firm's growth and success as a group.

2) Employees: even in the assessments already done, it is confirmed the constant presence of the G.M. (in almost the 80% of the relevances) as the main influencer in the organization goals and directions (for someone with the help of the CEO). In some cases, some of the employees had been colleagues of the G.M. in precedent working experiences and firms and, influenced by the new project presented by him, they have chosen to join the project.

Concerning procedures, the HR consultant and the management tried to find a dimension in which "formalize but not bureaucratize" some processes in this department. They

produced three main procedures to follow in order to create a common sense of equity and respect.

These procedures are:

- 1) HR Training Procedure: a procedure with some steps through which a specific training need is requested, processed, financed and finally delivered or not by the firm;
- 2) Permits, Diseases, Vacation Times and Reimbursement of Expenses Procedure: all the passages to create a request for the activities on the title with timing, people to inform and delivery mode;
- 3) HR Recruitment Procedure: a procedure about the all the process of recruitment, from the initial phase of CV screening to the job interview.

Taking impressions from workers about these procedures the results were quite conflicting. About the 50% of employees see these procedures as a “threat for the stability”, an act of bureaucratization and heavier of the organizational life. The last 50%, instead, see in these procedures a way to regularize and equilibrate some inefficient activities inside the firm (and also the group). However, the introduction of these procedures has brought a reduction in wastes in timing and in financials. Effectively, wastes as long times for recruitments or lack of notice for permits, or also wrong mode of presentation for employees’ expenses to refund have been almost eliminated with a consequent efficiency in these areas.

#### **4.3.2. PDCA Tools: From Scientific Method to Practice**

PDCA method sets the approach to operational tools in a scientific way. Following this rationale, T.C.'s consultants built a logic scheme respecting the cycle of Plan-Do-Check-Act.

With the following paragraphs, we are going to describe the tools born for the satisfaction of the strategic plan starting with logical and scientific consequence coming from the Deming's Cycle.

##### **4.3.2.1. "Plan": Business Plan and The Budget Table**

There is no strategical plan without the proper guidelines. In this situation, there will not be any strategical plan without its business plan and its fixed (from the management) budget.

One of the first "revolution" brought inside the organization by the marketing consultants was the composition of the business plan. As D.F. Abell defined, the started point of strategic planning is mainly the definition of the business. The purpose of any business plan is exactly to define a precise border of the business and so a precise border of the strategic planning.

Starting from the vision and the mission of the two key-men and founders of this firm (but especially of the group project), the consultant has fixed the key-points of the organization and tried to explain every aspect of the firm. In this case, the BP has not only been a manual to create a formal plan for the T.C. but also, a document to present the entire structure to eventual shareholders.

In addition to the BP, there is no planning without a proper program of the budget. The Budget Table can be seen as a personalized plan to manage and project the economical sources every year. This tool was built by the General Manager at the beginning of this "strategical revolution" in order to maintain coherence with the initial budgeting agreed with the CEO during the business period. It must be underlined that every tool is





Activities Procedure. This is a tool to regularize the commercial offers process, the commercial orders process and the purchasing orders process. For every section, this procedure highlights the main referents and the main actions to follow by the workers of the different areas. This procedure has been fundamental in order to clear some wastes of time and, consequently, of efficiency, creating by unregulated processes in strategic areas as Commercial Area and Purchasing and Logistics Area. In the aforementioned areas, effectively, it is extremely important to stay focused on the response times to satisfy customers as better as possible.

Under an HR point of view, the immediate consequence of a planning on the employees is the take-over of training needs by which reinforcing the employees' shortcomings. After the period of assessments, the HR consultants comparing the workers requests about training needs with the firm's needs created a table of training needs (Table 4.2) to be shown to management for approval. To not enlarge the financial weight of the training, the consultant has tried to engage in SMEs funds for learning and courses and to use internal sources (for example for the languages training courses).

**TRAINING  
NEEDS**

<b>Recipients</b>	<b>Training Course</b>	<b>Notes</b>	<b>Proposal</b>	<b>Teacher Cost</b>	<b>Coverage Costs</b>	<b>Mode of Coverage</b>

**Table 4.2** “Sample of Training Needs Table”

It is very useful to analyze the specific need of every worker. The data are summed-up as follows:

- A 50% of the group asked to join a Business English course feeling the necessity to align their communication performance to the world business language;
- Every specific area has requested specific course to develop emergent topic;
- The management has chosen the three most lacking training course: Business English, Consulting Sale and Commercial Alignment.

The data above are important to underline which areas are the most important to strengthen (Commercial Area).

Finally, the last step to create an efficient operational structure is to set up a Functions Chart to assign function (and not role) to every employee. It is very important for T.C. to underline the fact that this tool is called “Functions” Chart and not Organization Chart; this is a focus point for the management to show the importance of the function and not the role or the hierarchy into the organization but the essence to be, first of all, a group and a team and not individuals with personal goals. The strategic value of this type of chart (see paragraph 4.1.4.) is to melt the organizational structure of every component of the T.C. group to form a unique big company that moves with unique scope and goals. Actually, observing the T.C.’s chart, some employees are “legally” part of the other owned firms but they are “operatively” part of the Techno Center’s structure. This is an important specificity of the Techno Center’s strategy, increasing the difficulties of coordination but at the same time creating completed integrated solutions.

#### **4.3.2.3. “Check”: Finance&Budget Control**

Together with this step, another area was born to help the management in controlling and monitoring results and performance in particular at a financial level: The Finance&Budget Control Area. It is significant the new entry: this suggests a deep interest in the check phase to reveal the results of the strategic planning with numerical confirms or denials. Linked to this area, there are also the “balanced scorecards” represented by control tools as the Cash Flows table or the Orders Table. Each of them is born with the same rationale: supervising the upcoming events with a financial focus. The importance of these tools is without any doubt vital and help the G.M. and the CEO to have a direct vision on the planning. In fact, these two tools were built with simple and intuitive excel tables but that give the possibility to introduce data constantly and to show immediately the ongoing of the financial and operational position of the firm.

Starting from the Cash Flows table, we refer to a table in which every inflows and outflows of the organization is controlled. So, it is possible to have a (monthly) report and also, a sustainable forecast, of the availability of cash. A liquidity crisis is a recurrent situation in Italian firms and it can cause a situation of bankruptcy. A 2010 Discover Small Business Watch survey pointed that about 50% of small business suffer for cash flow problems. It is glaring that the Cash Flow table results as a fundamental tool in the “check” phase and, mainly, in the financial wellness of the corporate. The logic behind the building of this table is to insert liquidity values from bank accounts for the monthly reconciled check and, for the forecast on liquidity, to insert values coming from repetitive and confirmed payments and revenues from concrete orders (assured by customers’ or suppliers’ certifications). In this way, this document obtains a double goal: on one hand a classical check



of the liquidity ongoing, from the other hand a forecast tool aimed to observe the trend of cash situation.

For what concerns the Orders Table, this tool is specifically useful not only for CEO and G.M. in reviewing the successful advancement of the single customer's order but also for the Head of Operations Department (that is also the CEO) in managing the "state of art" of the works and their related payments. This tool is strictly connected with the CF table inasmuch it produces the forecast on revenues and costs generated by the single customer's order all along the duration of the works. Moreover, this table provides a report of the margins: from the forecasted margin to the actual margin, it is an additional option to help the management to take under control the value added on the single order.

#### **4.3.2.4. "Act": *The Quality Book***

In the final phase, there are those tools that recapitulate and confirm the other phases. This part is to create a model to follow and to articulate passages to build the roots for the future.

The better example of this phase comes from the Quality Book; this born for a necessity of the UNI EN ISO 9001 certification process, but it was a good opportunity to put in writing those processes that gives to TC that quality dimension thanks to the changes brought by the strategical revolution. This is a document that sums up all the procedures, the roles and the formalization useful in a strategical plan but, mainly, in a quality certification. It could be imagined as a manual that represents the better essence of every process, from the commercial to the delivery process and all the standards to follow for the employees of those areas.

## Conclusions

*“To succeed, jump as quickly at opportunities as you do at conclusions.”*

*- Benjamin Franklin*

At the end of this elaborate, I have finished the analysis of the whole case. There are a lot of variables making a proof of the success of the strategic plan in a small context as the T.C.'s one.

First of all, we must consider the period in which strategic plan has started to act: from 2016 until now (and it is still working!). In fact, the first step to a defined strategic plan has started more than one year ago with a continuous process that every year is screened in its effects.

Second of all, the choice of variables:

the main important is the growth, in economics but also in the organizational structure (number of employees, sites, etc).

Then, there is the employees' satisfaction in firm's processes; if they think that these changes are really effective, or they bring only a bureaucratization of the organization; if there was a development of their points of strengths and a reinforcement in their points of weaknesses.

Now, we are going to sum-up some of the results coming also from strategical plan (at Techno Center level):

1) Revenues; in 2016 revenues were €2.514.608, in 2017 revenues were €3.391.813. So, it was registered a growth in revenues of about 35%;

2) Employees; at the end of 2016, the employees were 6; at the end of 2017, the employees were 12;

3) Sites; in 2016 Techno Center had only one legal site, one business unit and one production site. At the end of 2017, T.C. reached one legal site, one operational site, one production site and two operations unit;

4) Customers; in 2016 Techno Center counted four big customers and several small customers. At the end of 2017, T.C. counted 6 big customers (and almost other 7 big customers prospects).

In addition to this positive scenario, we can add the employees opinions: the 80% of employees consider the changes brought by strategical planning a necessary and important step to become an important player inside this market. The other 20% consider this formalization a too fast bureaucratization of the processes (but they recognize a general improvement of the working quality life).

To conclude, studying the data and observing directly the organizational life inside the firm, I should admit that a strategical plan, guided by people with strong expertise and assisted by the management, could be considered one of the most important action and revolution to survive in fast-growing organizations; this because through a deep sense of organization, it could be possible to maintain control of a structure that, in the process of growth, has an extremely tendency to enlarge its borders and, often, its control from the vision and mission that management has appointed.

One of the really important concept is that, strategic plan is not a unique and immutable series of action, it has to evolve as the context evolves, it must change as the people and economies change; strategic plan is a flexible guide to run into the right path for every organization. As Amber Hurdle said “A plan is not putting you in a box and forcing you to stay there. A plan is a guide to keep you on course, efficient, and safe.”

## Bibliography

2GC Limited (2001). Balanced scorecard implementation in SMEs: reflection in literature and practice. 2GC Conference Paper.

Abernathy, W.J., Clark, K.B., Kantrow, A.M. (1981). The new industrial competition. *Harvard Business Review*, 68-81.

Abernathy, W.J., Clark, K.B., Kantrow, A.M. (1981). *Industrial renaissance: Producing a competitive future for America*. New York, NY: Basic Books.

Abernathy, W.J., Clark, K. (1982). *The competitive status of the US auto industry: A study of the influences of technology in determining international industrial competitive advantage*. Washington, DC: National Academy Press.

Ahmad, M.F., Zakuan, N., Jusoh, A., Takala, J. (2012). Relationship of TQM and business performance with mediators of SPC, Lean Production and TPM. *Procedia - Social and Behavioral Science*, 65 (2012), 186-191.

Andersson, R., Eriksson, H., Torstensson, H. (2006). Similarities and differences between TQM, six sigma and lean. *The TQM Magazine*, 18(3), 282-296.

Arnheiter, E.D., Maleyeff, J. (2005). The integration of lean management and Six Sigma. *The TQM Magazine*, 17(1), 5-18.

Atwater, L.E., Brett, J.F., Charles, A.C. (2007). Multisource feedback: lessons learned and implications for practice. *Human Resource Management*, 46(2), 285-307.

Ballard, G., Kim, Y. (2001). Activity-Based Costing and its application to lean construction.

Barringer, B.R. et al. (2005). A quantitative content analysis of the characteristics of rapid-growth firms and their founders. *Journal of Business Venturing*, 20(2005), 663-687.

Barringer, B.R., Harrison, J.S. (2000). Walking a tightrope: creating value through interorganizational relationships. *Journal of Management*, 26(3), 367-403.

Beaver, G. (2003). Small business: success and failure. *Strategic Change*, 12(2003), 115-122.

Beaver, G., Jennings, P. (1997). The performance and competitive advantage of small firms: A management perspective international small business. *Journal: Researching Entrepreneurship*, 15(2), 63-75.

Bennett, R.J., Robson, P.J.A. (2000). SME growth: the relationship with business advice and external collaboration. *Small Business Economics*, 15(2000), 193-208.

Berman, J.A., Gordon, D.D., Sussman, G. (1997). A study to determine the benefits small business firms derive from sophisticated planning versus less sophisticated types of planning. *The Journal of Business and Economic Studies*, 3(3), 1-11.

Berry, M. (1998). Strategic planning in small high-tech companies. *Long Range Planning*, 31(3), 455-466.

Besterfield, D.H. (2004). *Quality control*. Pearson Education India.

Bhasin, S. (2008). Lean and performance measurement. *Journal of Manufacturing Technology Management*, 19(5), 670-684.

Bicheno, J. (2004). *The new lean toolbox: towards fast, flexible flow production and inventory control*. The McGraw-Hill Companies Inc.

Braggs, S.M. (1999). *Managing explosive corporate growth*. New York, NY: Wiley.

Brightman, B.K., Moran, J.W. (2001). Managing organizational priorities. *Career Development International*, 6(5), 224-288.

By Todnem, R. (2005). Organisational change management: A critical review. *Journal of Change Management*, 5(4), 369-380.

Chiarini, A. (2013). *Lean Organization: from the Tools of the Toyota Production System to Lean Office*. Bologna, Italy: Springer-Verlag Italia

Chiarini, A. et al. (2016). *Understanding the Lean Enterprise*. Switzerland: Springer International Publishing.

Cua, K. C., McKone, K.E., Schroeder, R.G. (2001). Relationship between implementation of TQM, JIT, and TPM and manufacturing performance. *Journal of Operations Management*, 19(2001), 675-694.

Cusumano, M. A. (1994). The Limits of "Lean". *Sloan Management Review*, 35(4), 27.

Cusumano, M. A., Von Krogh, G. (2001). Three strategies for managing fast growth. *MIT Sloan Management Review*, 42(2), 53-61.

De Toni, A., Tonchia, S. (1996). Lean organization, management by process and performance measurement. *International Journal of Operations & Production Management*, 16(2), 221-236.

Deming, W.E. (1986). *Out of the crisis*. Cambridge, MA: MIT Press.

Deming, W.E. (1950). *Elementary Principles of the statistical control of quality*. JUSE.

Dievernich, F.E.P., Gong, J., Tokarski, K. O. (2015). *Change management and the human factor*. Switzerland: Springer International Publishing.

Dievernich, F.E.P., Wetzel, R. (2014). Mind the gap. The relevance of postchange periods for organizational sensemaking. *Systems, Research and Behavioral Science*, 31(2014), 280-300.

Dobbs, M., Hamilton, R.T. (2007). Small business growth: recent evidence and new directions. *International Journal of Entrepreneurial Behavior & Research*, 13(5), 296-322.

Doukidis, G.I. et al (1996). Information systems planning in small business: a stages of growth analysis. *Journal Systems Software*, 33(1996), 189-201.

Earley, J.A.A. (2016). *The lean book of lean: A concise guide to lean management for life and business*. Great Britain: John Wiley & Sons Ltd.

Fei, F., Found, P.A., Van Dun, D.H. (2009). Multi-level management and leadership skills in lean organization. *POMS 20th Annual Conference*. Orlando, FL, USA.

Flynn, B.B., Schroeder, R.G., Sakakibara, S. (1995). The Impact of quality management practices on performance and competitive advantage. *Decision Sciences*, 26(1995), 659-691.

Foley, K. (2004). *Five Essays on Quality Management*. Sidney, AU: Sai Global Ltd.

Fullerton, R.R. et al. (2003). An examination of the relationships between JIT and financial performance. *Journal of Operations Management*, 21(4), 383-404.

Guelpa, F. (2005). *Crescita dell'impresa e complessità finanziaria*. Italia: Franco Angeli.

Hall, R.W. (1987). Attaining manufacturing excellence: just-in-time, total quality, total people involvement. *Irwin Professional Pub*.

Harrison, J., Taylor, B. (1997). *Supergrowth companies*. Oxford: Reed Educational and Professional Publishing.

Hellsten, U., Klefsjö, B. (2000). TQM as a management system consisting of values, techniques and tools. *The TQM Magazine*, 12(4), 238-244.

Hines, P., Holweg, M., Rich, N. (2004). Learning to evolve: A review of contemporary lean thinking. *International Journal of Operations & Production Management*, 24(10), 994-1011.

Holweg, M. (2006). The genealogy of lean production. *International Journal of Organisational Behaviour*, 25 (2006), 420-437.



Hong, P., Modi, S.B., Yang, M.G. (2010). Impact of lean manufacturing and environmental management on business performance: An empirical study of manufacturing firms. *International Journal of Production Economics*, 129(2011), 251-261.

Hostettler, D., Mooraj, S., Oyon, D. (1999). The balanced scorecard: a necessary good or an unnecessary evil? *European Management Journal*, 17(5), 481-491.

Imai M. (1988). *Kaizen: the key to Japan's competitive success*. USA: Random House USA Inc.

Ishikawa, K. (1985). *What is total quality control? The Japanese way to success*, translated by David J. Lu. Englewood Cliffs. NJ: Prentice-Hall Inc.

Kannan, V.R., Tan, K.C. (2002). Supplier selection and assessment: Their impact on business performance. *Journal of Supply Chain Management*, 38(2002), 11-21.

Kannan, V.R., Tan, K.C. (2004). Just in time, total quality management, and supply chain management: understanding their linkages and impact on business performance. *The International Journal of Management Science*, 33(2005), 153-162.

Kaplan, R.S., Norton, D.P. (1993). Putting the balanced scorecard to work. *Harvard Business Review*, 4-18.

Kelmar, J.H., Noy, S. (1990). Perceptual differences in small business strategic planning. *DUBS Occasional Paper*, Durham University.

Kim, W.C., Mauborgne, R. (1997). Value innovation: The strategic logic of high growth. *Harvard Business School Publishing*.

Krumwiede, K.R. (1998). The Implementation stages of activity-based costing and the impact of contextual and organizational factors. *Journal of Management Accounting Research*, 10(1), 239-277.

Landau, S.B., Leventhal, G.S. (1976). A simulation study of administrators' behavior towards employees who receive job offers. *Journal of Applied Social Psychology*, 6(1976), 291-306.

Lebas, M.J. (1995). Performance measurement and performance management. *International Journal of Production Economics*, 41(1995), 23-35.

LeCornu, M.R., et al. (1996). The small enterprise financial objective function. *Journal of Small Business Management* 34(3), 1.

Liker J., Meier D. (2006). *The Toyota way fieldbook*. McGraw Hill.

Linderman, K., Schroeder, R.G., Choo, A.S. (2006). Six Sigma: The role of goals in improvement teams. *Journal of Operations Management*, 24(6), 779-790.

Longenecker, C.O., Sims, H., Gioia, D. (1987). Behind the mask: The politics of employee appraisal. *The Academy of Management Executive*, 1(3), 183-193.

Luecke, R. (2003). *Managing Change and Transition*. Boston, Massachusetts: Harvard Business School Press.

Luft, J., Ingham, H. (1961). The Johari Window: A graphic model for interpersonal relation. *Human Relations Training News*.

Lyles, M.A., et al. (1993). Formalized planning in small business: Increasing strategic choices. *Journal of Small Business Management*, 31(2), 38.

Malone, G., Sinnett, W. (2005). Performance Management. *Inverclyde Council*.

Matthews, C.H., Scott, S.G. (1995). Uncertainty and planning in small and entrepreneurial firms: An empirical assessment. *Journal of Small Business Management*, 33(4), 34.

Mazzarol, T., Reboud, S., Soutar, G.N. (2009). Strategic planning in growth oriented small firms. *International Journal of Entrepreneurial Behavior & Research*, 15(4), 320-345.

McLachlin R. (1997). Management initiatives and just-in-time manufacturing. *Journal of Operations Management*, 15(4), 271-292.

Melody, W.H., Mansell, R.E., Richards, B.J. (1986). Information and communication technologies: Social science research and training. *Economic and Social Research Council*.

Mesch, D.J., Farh, J., Podsakoff, P.M. (1994). Effects of feedback sign on group goal setting, strategies, and performance. *Group and Organization Management*, 19(3), 309-333.

Moen, R., Norman, C. (2006). Evolution of the PDCA Cycle.

Monden, Y. (2012). *Toyota Production System: An integrated approach to Just-In-Time*. Boca Raton, FL: Taylor & Francis Group.

Mullins, J. W. (1996). Early growth decisions of entrepreneurs: the influence of competency and prior performance under changing market conditions. *Journal of Business Venturing*, 11(2), 89-105.

Ohno T. (1988). *The Toyota Production System: Beyond Large-Scale Production*. Portland: Productivity Press.

Ohno, T., Kumagai, T. (1980). Toyota Production System. *International Conference on Industrial Systems Engineering in Developing Countries*, Bangkok.

Orser, B.J., Hogarth-Scott, S., Riding, A.L. (2000). Performance, firm size, and management problem solving. *Journal of Small Business Management*, 38(4), 42-58.

Otley, D. (1999). Performance management: a framework for management control systems research. *Management Accounting Research*, 10(1999), 363-382.

Pavletic, D., Pipan, K.K., Sokovic, M. (2010). Quality Improvement Methodologies – PDCA Cycle, RADAR Matrix, DMAIC and DFSS. *Journal of Achievements in Materials and Manufacturing Engineering*, 43(1), 476-483.

Poppendieck, M. (2002). *The Principles of Lean Thinking*, ITC.

Rich, J.T. (1999). The growth imperative. *Journal of Business Strategy*, 20(2), 27-31.

Robinson, R.B., Pearce, J.A. (1984). Research thrusts in small firm strategic planning. *Academy of Management Review*, 9(1), 128-137.

Roure, J.B., Keeley, R.H. (1990). Predictors of success in new technology-based ventures. *Journal of Business Venturing*, 5(4), 201-220.

Sandberg, W.R., Robinson, R., Pearce, J.A. (2001). ONE MORE TIME... SHOULD SMALL COMPANIES ATTEMPT STRATEGIC PLANNING? *The Entrepreneurial Executive*, 6(2001), 1-11.

Sexton, D.L., Van Auken, P. (1985). A longitudinal study of small business strategic planning. *Journal of Small Business Management*, 23(1), 7.

Shah, R., Ward, P.T. (2007). Defining and developing measures of lean production. *Journal of Operations Management*, 25(2007), 785-805.

Shewart, W.A. (1931). *Economic control of quality of manufactured product*. New York, NY: D. Van Nostrand Company Inc.

Siegel, R., Siegel, E., MacMillan, I.C. (1993). Characteristics distinguishing high-growth ventures. *Journal of Business Venturing*, 8(2), 169-180.

Silverstone, R. (1991). From audiences to consumers: The household and the consumption of communication and information technologies. *European Journal of Communication*, 6(2), 135-154.

Simpson, D.F., Power, D.J. (2005). Use the supply relationship to develop lean and green suppliers. *Supply Chain Management: An International Journal*, 10(1), 60-68.

Smither, J.W., et al. (2003). Can working with an executive coach improve multisource feedback ratings over time? A quasi-experimental field study. *Personnel Psychology*, 56(2003), 23-44.

Singer, B. (1995). Contours of development. *Journal of Business Venturing*, 10(4), 303-329.

Sugimori, Y., et al. (2007). Toyota production system and Kanban system Materialization of just-in-time and respect-for-human system. *International Journal of Production Research*, 15(6), 553-564.

Swink, M., Narasimhan, R., Kim, S.W. (2005). Manufacturing practices and strategy integration: effects on cost efficiency, flexibility, and market-based performance. *Decision Sciences*, 36(3), 427-457.

Taylor, M.J. et al. (2013). Systematic review of the application of the plan–do–study–act method to improve quality in healthcare. *Academic Surgical Unit*. doi:10.1136/bmjqs-2013-001862.

Upton, N., Teal, E.J., Felan, J.T. (2001). Strategic and business planning practices of fast growth family firms. *Journal of Small Business Management*, 39(1), 60-72.

Wang, C., Walker, E. A., Redmond, J. L. (2007). Explaining the lack of strategic planning in SMEs: The Importance of owner

motivation. *International Journal of Organisational Behaviour*, 12(1), 1-16.

Weitzman, M., Kruse, D.L. (1990). The effects of profit sharing on employment, wages, stock returns and productivity: evidence from UK micro-data. *Economic Journal*, 100(399), 1-17.

Womack, J.P., Jones, D.T. (1994). From lean production to the lean enterprise. *Harvard Business Review*, 72(2), 93-104.

Womack J.P., Jones D.T. (1996). Beyond Toyota: how to root out waste and pursue perfection. *Harvard Business Review*, 140-158.

Womack, J.P., Jones, D.T. (2005). Lean Consumption. *Harvard Business Review*.

Womack, J.P., Jones D.T. (1996). *Lean Thinking: banish waste and create wealth for your corporation*. New York, NY: Simon & Schuster.

Womack, J.P., Jones, D.T, Roos, D. (1990). The machine that changed the world. New York, NY: Rawson Associates.

Womack, J.P. (1983). Public policy for a mature industrial sector: the auto case. Unpublished Ph.D. Thesis. Political Sciences, Massachusetts Institute of Technology.

Woods, A., Joyce, P. (2003). Owner-Managers and the practice of strategic management. *International Small Business Journal: Researching Entrepreneurship*, 21(2), 181-195.

Zenger, T.R. (1992). Why do employers only reward extreme performance? Examining the relationships among performance pay and turnover. *Administration Science*, 37(2), 198-219.

Zhou B. (2016). Lean principles, practices, and impacts: a study on small and medium-sized enterprises (SMEs). *Annals of Operations Research*, 241(1-2), 457-474.

Zook, C.; Allen, J. (1999). *The facts about growth*. New York, NY: Bain and Company.



## Sitography

<http://www.oecd.org/sti/ieconomy/>, Digital Economy Outlook, OECD.

<https://ec.europa.eu/jrc/en/predict/ict-sector-analysis-2017>, ICT Report, European Commission.

<https://www.cwi.it/attualita/mercato/2017-mercato-ict-italiano-108734>, Italian ICT, Computer World.

<https://www.zerounoweb.it/trends/andamento-del-mercato-ict-e-digitale-ecco-tutti-i-dati-di-idc-per-il-prossimo-futuro/>, ICT Italian Outlook, ZeroUno.

[https://www.istat.it/it/files//2017/12/ICT\\_Anno2017.pdf](https://www.istat.it/it/files//2017/12/ICT_Anno2017.pdf), Report ICT 2017, Istat.

[http://www.rapportoassinform.it/il-digitale-in-italia-2017/la-trasformazione-nellofferta-ict-e-digitale-in-italia/introduzione\\_la-trasformazione-nellofferta-ict-e-digitale-in-italia.kl](http://www.rapportoassinform.it/il-digitale-in-italia-2017/la-trasformazione-nellofferta-ict-e-digitale-in-italia/introduzione_la-trasformazione-nellofferta-ict-e-digitale-in-italia.kl), Evolution of ICT offer, Assinform, Confindustria.

[http://www.treccani.it/enciclopedia/ict\\_%28Dizionario-di-Economia-e-Finanza%29/](http://www.treccani.it/enciclopedia/ict_%28Dizionario-di-Economia-e-Finanza%29/), Term ICT, Treccani.

<https://dictionary.cambridge.org/it/dizionario/inglese/ict>, Term ICT, Cambridge Dictionary.

## Summary

### Abstract

This elaborate has the goal to analyze the growth management with the use of strategic planning built through Lean Thinking and Change Management methodologies. Taking my personal experience as a stagiaire inside an Italian small company during its deep process of strategical planning forced by a rapid growth situation, this work starts with a presentation of the theoretical structure across the Lean production and the Change Management studies to focus on the main philosophies at the basis of the growth management presented in this case. Then, in the second chapter, it is explained the research problem came-out from the process of growth with a description of the fast-growth situations and a frequent lack of planning in fast-growing SMEs. With the third chapter the reader will enter in the specific market of the case study: the global ICT market and specifically the Italian one. The final part of the thesis represents the effective case study. In this final chapter, it is possible to read numbers and concrete situations of the theoretical framework, touching concrete growth path achievements and difficulties.

### Chapter 1

The first chapter is a travel around two business philosophies and methods finalized to the optimal management of wastes and processes in organizational contexts: Lean Thinking and Change Management.

Lean Thinking, born from the Japanese genial mind of Taiichi Ohno, is a specific mind-set addressed to the elimination of wastes across the production system. Starting from this idea, Lean production has been spread all along the organization processes, trying to avoid all of these useless steps and phases through a specific analysis of the organization systems. Since

the '70s, in which the Toyota Production System was globally adopted, until now Lean approach has been one of the most used methods to create effective firms through a process of inefficiencies avoiding.

Change Management, defined for the first time by Moran and Brightman, is a term related to all those activities through which managing renovation of organization to satisfy a continuous evolution of customers' needs and markets. Change Management is considered fundamental in periods like this in which changes are frequent and firms often have to transform their own structure and practices to survive.

Being Lean Thinking and Change Management optimal concepts to create effective strategical planning, they are assisted by methodologies coming from the application in real organizational contexts. Between these methodologies we can recognize, first of all, the PDCA cycle (Deming's Cycle). This method comes from the Galileo's scientific method and it helps to use a rational management process in the growth of a firm. It is composed by 4 steps: "Plan", "Do", "Check" and "Act". Each of these phases are linked to specific tools through which applying philosophies and science at the same time. Besides PDCA, there are also Total Quality Management (defined by U. Hellsten and B. Klefsjö, in 2000 "*as a continuously evolving management system consisting of values, methodologies and tools, the aim of which is to increase external and internal customer satisfaction with a reduced amount of resources*"), Just-In-Time as a method directly born from Lean production in time management, ABC for the cost management, Multisource Feedback approach for the employees assessment and finally the Performance Management to optimize the workers efficiency. All of these methodologies, mind-set and philosophies in business management have their conclusion in the building of an operational tools set able to create a strategic plan as specific as possible the company's needs required (in this term we refer to

our specific business case). In fact, in the final part of this chapter the main tools cited are:

- Balance Scorecard; a strategic planning tool to keep under control the strategic direction of an organization;
- Advanced Human Resources Tools; the set of tools addressed to employees as multisource feedback assessment, ad hoc tools and performance monitoring;
- PDCA Tools; “plan” → tools with the goal to plan the strategic directions of the organization (specifically: business plan, budget table, scheme of objectives); “do” → tools to “put into practice” the strategic directions (specifically: internal procedures, operational plan, training needs table, functions chart); “check” → the step to check out the previous steps (specifically: Finance&Budget control tools as cash flow table or orders table, attendance table); “act” → tools to take a formal direction to the strategic plan (specifically: Quality Book).

## **Chapter 2**

The second part of this thesis has been addressed to the explanation of the main research problem: fast growth management and related lack of planning.

In fact, in the process of growth, difficulties, as the bad management of the process of change in growth context (related to a lack of planning) and an incapacity of facing a fast-growth, could bring an organization to a disruptive situation.

In this part, in analyzing the description and the main drivers of the fast growth, I have meant to create a theoretical background of what the research problem of the business case was and how a lack of formal planning could bring to the incapacity to manage growth and its benefits.

Fast growth (or rapid growth) is defined by Barringer et al. that situation in which a firm has a 3-year compound annual sales growth rate of 80% or above (a quite uncommon situation). Following the same study, Barringer et al. (2005) has proved four main drivers for this exponential growth:

- 1) Founder characteristic; (especially in SMEs) the presence of a great personality as an owner-manager is one of the most important reasons for growth;
- 2) Firm attributes; even the attributes and values shared across an organization can influence its growth on performance;
- 3) Business practice; we can find between them the capacity to create unique value for customers is fundamental;
- 4) Human resource management practices; practices to exploit the best capacities of human resource among an organization (performance-based incentives, optimal hiring process, etc).

For what concerns planning and its capacity to improve performance growth, studies are divided and not uniform. One of these, by Robinson et al (1984), proved that benefits of strategic planning were not dependent to the stage of the development and that the impact of planning differed across these stages. Another study observed that basic operational planning had a positive impact on performance, but this impact was thin over time (D. L. Sexton and P. Van Auken, 1985). However, it can be concluded that planning was more beneficial in a long view term than in the short view (T. Mazzarol et al., 2009).

After all, in fact, one of the reason of this elaborate is the understanding of the impact of formal (and informal) planning in a “de-structured” firm with a rapid growth process in act.

### **Chapter 3**

After the analysis of the theoretical framework in the planning process and the related research problem of the case study, the additional step to follow in the theoretical framework is the analysis of the settings: the market.

In this case, the reference market in which the firm is moving is the Italian Information and Communication Technology (ICT) segment.

Introducing the characteristics of the market, I have started with a discussion of the macro-global elements of the ICT market.

First of all, ICT is referred to all devices among which it can be found networking components, complex systems and applications that allow the interactions between people, organizations, governments in the digital revolutionary world.

In the global context, ICT market registered a huge investment of about \$3.5 trillion with a continuous process of revenues growth in 2018 of about 4.4% (against the 4.3% of 2017). It is considered a medium risk rating market (Euler Hermes Economic) with three main drivers: The Internet of Things (IoT), the Blockchain Technology and the Artificial Intelligence.

For what concerns Italian ICT market, it follows a quite similar pattern to the global one: even in this market, three are the main drivers; in the last report conducted by Assintel and IDC Italia, the ICT market confirms the positive trajectories growing by 3.1% (with a positive trend also for the 2018, about 1.9%) with a special boost from the new technologies.

The market confirms a strong competition with more than 102 thousand firms and 560.000 employees, especially in the north-west and center of the country (Assinform, 2017). Even if this huge numbers of actors, the 66% of the firms

affirm to have an aligned position respecting the main competitors.

The main boost in the Italian sector, it is mandatory to cite the the National Plan Industry 4.0 (Piano Nazionale Industria 4.0) by the Minister Calenda: a plan of incentives in technologies and innovative communication systems to increase the effort in the digital transformation of the country.

## **Chapter 4**

The final chapter is also the core of the thesis. In the last part, in fact, there is a direct description of the actor related to the business case: The Techno Center.

It is an Italian ICT small company acting in the B2B segment and focalized to the main drivers of the market: Cybersecurity (and Blockchain Technology), IoT platforms and physical security systems.

The choice to make it the center of this elaborate was given by its particular fast-growing pattern and the consequent decision by the management to start a process of strategical planning of the organization.

Since 2016 with the introduction of two key-consultants, the T.C. has changed its mind-set and practices through the help of the Lean Thinking philosophy (creating simple but effective tools and guidelines in order to orient employees and to avoid wastes inside the organization).

The need for a formal strategic planning comes from the boost in revenues and dimension growth acted between 2014 (year of the acquisition of the firm by the actual ownership) and 2016. With a doubled-revenues report caused to the decision to buy the shares of two suppliers firms (Gi.Fe. Solutions and AxxonSoft Italia), the T.C.'s management has decided to create a common direction in the strategic orientation and a formal structure to this new born group.

Starting with the creation of HR, marketing and Budget&Control departments and introducing internal procedures and controlling tools, the firm has brought a gradual sense of structuring in those informal processes that were creating inefficiencies and wastes.

As the chapter 1 lists, the main tools have been created to create a common strategic pattern to manage an explosive growth without burden the organization with an overloaded bureaucracy.

After almost 2 years of efforts in strategic planning, the Techno Center's numbers have grown in a steady and sustainable way:

1) Revenues; in 2016 revenues were €2.514.608, in 2017 revenues were €3.391.813. So, it was registered a growth in revenues of about 35%;

2) Employees; at the end of 2016, the employees were 6; at the end of 2017, the employees were 12;

3) Sites; in 2016 Techno Center had only one legal site, one business unit and one production site. At the end of 2017, T.C. reached one legal site, one operational site, one production site and two operations unit;

4) Customers; in 2016 Techno Center counted four big customers and several small customers. At the end of 2017, T.C. counted 6 big customers (and almost other 7 big customers prospects).

## **Conclusions**

After the description and the presentation of the final data, we can conclude that, in this specific case, strategic planning can be considered a winning way to manage growth. It is quite obvious that it is not possible to generalize but this elaborate could be an additional proof in favour of the strategic planning's application. In the general meaning of growing steadily and consciously, getting a right path in the



strategical direction not only helps employees to have a clear idea to where the organization is going to but, eventually, it admits to channel forces to a unique purpose avoiding confusing and ineffective processes inside a firm.

The focus point is that a strategic plan is not a unique and immutable series of action, it has to evolve as the context evolves, it must change as the people and economies change; strategic plan is a flexible guide to run into the right path for every organization. As Amber Hurdle said “A plan is not putting you in a box and forcing you to stay there. A plan is a guide to keep you on course, efficient, and safe.”