

CETRA Case Studies

WP1

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Case study “Olivetti transitions”

Introduction and methodology

The company that we analyse in this case study is Olivetti, holding of a group that operates in several ICT sectors and that, in the course of the last 25 years, has moved from the production of typewriters to information technology first (where it became the European leader in the field of personal computers) and to telecommunications then.

Olivetti’s strategy, during the entire course of its history, has always been to operate in the sectors that could return the greatest added value, abandoning, from time to time, the sectors that were no longer profitable or those where the company was no longer able to compete. In particular, we will concentrate our analysis on the period from 1995 to 2005, during which the company lived through a progressive transition from information technology to telecommunications. This transition came in phases. First, Olivetti tried to enter in the telecommunications sectors by producing hardware devices. Subsequently, the company turned to the TLC devices. Finally, although Olivetti continued to operate in the same market, it radically changed its role from new player concentrated in the mobile telecommunications to first operator in the market, with a very large base of fixed telephony subscribers, thanks to the acquisition of the incumbent.

The first objective of this analysis is to understand how the management reacted to the changes in the market and how it changed its own perception of itself and of its competitors in a uncertain environment like that of ICT, where, in few years, the competitors and the market itself went through rapid and profound changes.

The second objective is to understand how, and whether, the fact that the company operated in an environment that became more and more complex was perceived, and how this situation was managed in order to keep the company profitable.

In a complex environment, like the information technology industry, planned development

strategies are subject to continuous “jumps”, even when different kinds of prevision are associated with different levels of forecasting difficulty. In fact, in this new scenario, while the prevision on technological change remains essentially correct, the capacity to foresee the shape that the market will take in the future is much less reliable. On the contrary, any scenario developed about the role that the group (and its competitors and partners) will play in the new competitive environment is likely to be extremely aleatory, not because of managerial incompetence but because the competitive environment is characterized by ontological uncertainty¹. In this situation the company’s strategy managers are unable to make significant future forecasts, although in some way they may think they can.

By analysing the difference between what was forecasted and what really happened, we try to formulate some recommendations on how people could act correctly in an environment characterized by the intrinsic impossibility to make precise previsions.

In order to investigate this company, we performed a set of interviews with some of the managers that were personally involved in the transition of Olivetti from information technology to telecommunications.

The interviews were supported with documental research on a number of presentations prepared by the managers of the group, in the period of observation, in order to analyze the present situation and the future perspectives.

The case will be developed by using, as focal points to be analysed in depth, the moments in which the key-documents were realized, in particular:

- The strategic plan presented to the shareholders and to the trade unions at the beginning of 1997;
- The plan drawn up in 1999 for the acquisition of Telecom Italia (the incumbent in fixed and mobile telecommunications in Italy);
- The Telecom Italia strategic development plan for the three-year period 2005-2007, presented to the investors at the end of 2004.

¹ By an environment characterized by “ontological uncertainty” we mean an environment where the growing complexity makes it impossible for the operators to know, even in theory, their role in the market (and obviously the roles of the other players) and to make precise forecast about the future structure of the system. Many contemporary competitive environments present these features, due to an exponential growth in the relevant interactions to be taken into account in order to perform reliable forecasts. For an in depth study see Lane & Maxfield (2005).

Description of the organization & innovation history

Olivetti was founded in 1908, by engineer Camillo Olivetti, and it was the first Italian firm in the sector of typewriters. During the 10's and the 20's it started to produce an increasing number of models, reaching the level of 13,000 annual units by the end of the second decade of the century.

Starting from the 30's the firm expanded its offer with the introduction of the first electric typewriters and of a series of other products like calculators, teletypewriters and office furniture; at the same time, it began a commercial and productive internationalization that led to open branches in some European and South-American countries like Spain, Belgium and Argentina.

In 1932, Adriano Olivetti, Camillo's son, became general director of the company, and thanks to his entrepreneurial capabilities the corporation became, in the 50's, the world leader in the production of mechanical typewriters with a strategy focused on innovation and to industrial design.

In 1958, after a decade of extraordinary growth, the company employed up to 24,000 people, 10,000 of which abroad, and exported 60% of its production, a result which allowed it, the following year, to acquire a big American competitor: Underwood.

Another of Olivetti success in the 50's was the capability to invest, very early, in electronic technology, creating a laboratory in Pisa already in the middle of the decade, and then in 1959 creating the first electronic calculator totally developed in Italy, the Elea9003.

The following decade marks the transition from mechanical to electronic typewriters, and Olivetti, which in the meantime had been quoted at stock exchange, opened its capital to banks and industrial investors (transforming into a group). Due to the high cost of research in electronics and to the costs of Underwood's acquisition, the company found itself in a difficult financial situation. Since the Italian market was still not prepared for the computer, Olivetti decided to sell its electronic division to General Electric; however this deal did not terminate the interest of the group in the sector, in fact it remained active in the field of small dimension machines and of distributed information technology.

In the 70's, while expanding its product range (introducing products like teletypewriters, printers and other office machines) the company went through the electronic reconversion of all its productions and the renewal of its designs. But at the end of the decade, the low economic growth in Italy and Europe and the contextual growth of global competition caused the financial situation to become critical again.

At the end of the decade, Carlo de Benedetti invested in the company, and under his direction a new period of growth began, funded through a series of recapitalizations and managerial improvements. Under De Benedetti's guide the company gained European leadership in the personal computers market. The international level of the company was increased and many strategic partnerships were created, like the one with AT&T. Also in this sector the company became a pioneer, in fact it was one of the first to adopt the open architecture that is characteristic of almost every computer today.

At the begin of the 90's, while the group was entering in the telecommunications sector, difficulties in the field of personal computers arose due to growing competition brought by south-east Asia operators, that imposed to everybody a strong reduction of costs, prices and time-to-market of these products, pushing Olivetti out of this market.

In the light of the difficulties that the company was encountering in the field of personal computers, under the guide of a new management, the company began to commit itself to the sector of telecommunications. This strategic choice and the good results that, in a moment of crisis for the company, this sector archived, gave Olivetti the necessary push to begin a new transition that is the object of the present case study.

In a context of progressive liberalization of the telecommunications markets, Olivetti decided to enter this sector, but at least in the first period (1995-96) as shown by the constitution of Olteco (a company that produced telecommunications devices), for the group to operate in this sector meant to produce hardware and not yet to supply TLC services.

Things started to change with the incorporation of Telemedia, a holding that contained a series of companies in the telecommunication services field.

Olivetti, being in contact with US venture-capitalists, understood the potentialities offered by the mobile telephone market, and the management of the group decided to take to the bid for the second-operator licence on the GSM market; from this point on, Olteco (specialized in the production of TLC devices) and was replaced by the companies of the group that operated in the field of telecommunication services.

The result of this decision was that in 1997 the group's structure, which will be analyzed in detail, was centered on telecommunication services (divided into Omnitel, a mobile TLC services provider, and Olivetti-Telemedia a fixed TLC provider serving mainly business customers) and, with secondary roles, on the one hand Olsy (system integrator in the field of bank automation and

desktop service) and Tecnost (automation of lottery, access and tickets), on the other hand Olivetti-Lexikon that operated in the production and commercialization of products for office automation (for example printers and ink-jet faxes).

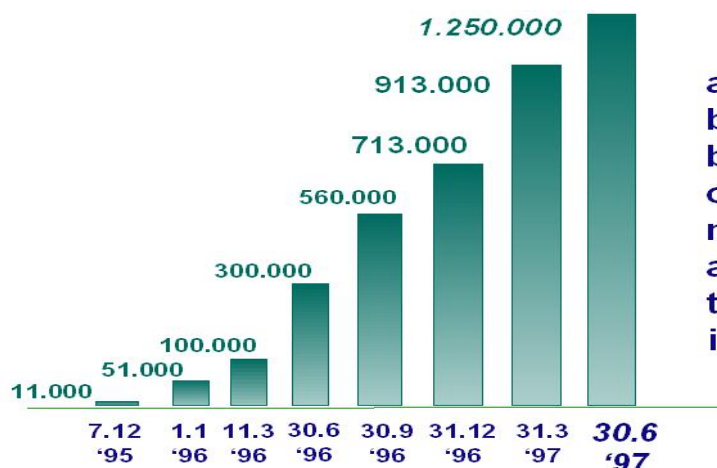


Figure 1 – Omnitel’s customers until mid-1997

Omnitel, already in mid-1997, was going through a period of such an extraordinary growth that the turnover reached, at the end of '96, 750 billion lire (380 million euro), employee figures reached 2900 units and its territorial and relational structure grew rapidly reaching 50 operational headquarters and 41 international roaming agreements.

Omnitel’s client base grew very fast, but also the other European telephone companies achieved, in these same years, very good results, in fact radio-mobile services turned out to be one of the sectors with the fastest growth in the world market, while the continental market reached at the end of 1996, 6,5 million clients.

Talking about previsions, Omnitel’s analysts foresaw a market of 13 million clients in Italy and 80 million in Europe in 2010. Actually today, in 2005, there are more than 50 million clients in Italy and more than 400 million in the entire continent.

In this case, Olivetti, strongly underestimated the real dimensions of the potential market. This kind of forecasting error is quite frequent in a situation where the market’s actors operate in an environment characterized by ontological uncertainty (see the example of ROLM described in Lane and Maxfield “Foresight, complexity and strategy”²).

From the company’s holding structure point of view, Olivetti held the relative majority of

² Lane & Maxfield (1995)

Omnitel's capital with the 36% while the minority partners were other telecommunications companies and some investment groups: Bell Atlantic (17%), Airtouch (15%), Mannesmann (6%), Cellular Communication International (10%) and Telia (7%).

The main company controlled by Telemedia was Infostrada (whose capital was divided between Olivetti with 67% and Bell Atlantic with 33%), which in the meantime had moved on to the sector of fixed telephony (and internet); at the beginning of 1997 it had a network of 70 POPs (Point Of Presence) and two voice communication stations.

In 1996, Telemedia, which also controlled Hughes-Olivetti (satellite communications) and Italia On Line (Internet provider), had a turnover of 200 million Euro and 1350 employees.

The management of the group hoped to obtain a turnover, in 1997, from all the participations in telecommunications, of 1 billion euro.

The oldest sector, that of office machines, which as we observed, was becoming progressively less important, was represented by Olivetti-Lexikon which, after leaving personal computers, focused on the production of printers, fax, photocopiers, typewriters and other accessories. In 1996 it had a turnover of 1 billion euro and 5050 employees.

Lexikon still had a considerable turnover, second in the group only to that of Omnitel and Olsy, but it used a proportionally larger number of employees to produce this result; this shows that its cost structure rendered this business definitely less profitable than TLC.

The biggest company in the group was Olsy, with a turnover of around 5000 billion lire (2,5 billion euro) and 14.000 employees; its core business was the development of services and solutions for banks, although hardware sales represented 40% of the turnover. From the geographical point of view the company was present in particular in the European market from where it has $\frac{3}{4}$ of the turnover, but it was also present in other industrialized countries.

Finally, Tecnost had a turnover of 110 million euro and 670 employees.

The Olivetti group's management realised that the future scenarios of their businesses was changing and that it was necessary - quoting the strategic plan - to "develop the technological frontier in line with the needs of the market and the customers, which is a necessary condition for the generation of added value". For this purpose they decided to make considerable investments in R&D.

Research in the group was principally carried out in the following sectors: applied solutions

for banks and public administrations, telecommunications and internet, multimedia technologies, fax, printers and specialized terminals, design. It was carried out mainly in research centres in Italy, Great Britain and Switzerland, with an investment of 170 million euro in 1996.

The management's opinion was that in order to perform research effectively, the following elements were necessary:

- flexibility in the decisional instruments, in order to let the R&D exploiting at best the entire set of organizational structures, of resources and of competences that characterize the group;
- develop the methodology and the evaluation criteria for measuring the obtained results;
- develop strong ties with the customers in order to better understand their needs and to follow their development.

A question arises at this point: a posteriori, it is easy to recognize a tendency in the company to move to telecommunications services; but when did the management really understand that the group's future would have been in this sector rather than in hardware production or in PC production or in other information technology productions?

The answer to this question, seems to be, according to documental research, the beginning of 1997. In the year before, of 4.7 billion euro, around 3.6 came from information technology and only 1.1 came from telecommunications services.

At the beginning of 1997 however, even if some doubts remained on the strategy to adopt, the high profit margin and growth rate of the TLC services market - which produced, in less than two years, around the 25% of the turnover - made it clear that this was the group's most promising sector, even though the core business remained in information technology which produces $\frac{3}{4}$ of the turnover.

In the course of 1995 and 1996, the company had gone through a period of re-interpretation both of its role and also of the information technology industry in general. During this process the management understood that the sector was going through a new situation in which the players could no longer be global suppliers ("from chip to post-selling service"), and as a consequence, through a strong de-verticalization they constructed companies specialized in the supply of products and services in single parts of the value chain.

This transition was due, according to the management, to three factors:

- the presence of many new application areas in the information technology market;
- the rapid technological evolution (that make necessary an important reduction of the time-to-market of the products);
- a growing complexity in the market itself that made it impossible for one single firm to act on all the levels of the value chain and difficult even to operate in only one of them.

The progressive increase in the importance of telecommunications among the activities of the group implied a re-definition of the perception of the market by the management, which from this point forward realised that their main competitor was Telecom Italia and that their core market was, and would increasingly be, mobile communication. As a consequence the decision was taken to progressively abandon the computer market and information technology, and in particular the PC market, where the commercial situation was deteriorating, in order to concentrate more and more on the TLC sector on which high growth trends were foreseen

Concerning the company's three divisions, in the 1997 plan, the general objectives were centered on some focal points:

- telecommunications (Infostrada and Omnitel): to construct an alternative to Telecom with a wide range services in the fixed and mobile market;
- information technology solutions and services (Olsy and Tecnost): to continue to supply their core services, and to concentrate in particular on the competences developed in the field of distributed information technology and of network technologies;
- information technology products (Olivetti-Lexikon): to renew the product range for the business sector and try to conquer the growing consumer sector.

The general objectives that the management wanted to pursue in this phase were: first to expand activity in fixed telecommunications and data transmission in order to complete the offer in the TLC sector; second to internationalize activities, third to revitalize the old businesses in information technology.

Omnitel is not the only investment attempt made by Olivetti outside of the information technology sector. In fact, in front of the crisis of its core activity and even with a difficult financial situation, the company tried to make investments in order to expand into sectors with promising rate

of growth in a short period of time and with limited investment.

Another of the options explored was to enter the field, similar to information technology, of home automation that at the time (1996) seemed to be promising given the analysts' forecasts.

In these years, Olivetti's management contacted, in order to try to create an alliance with an important player in the sector, Echelon, the producer of the Lonworks chip, and for the acquisition of other Italian companies.

Activities in this sector were stopped when it became clear that Omnitel was a great success and that the group's objectives and investments should move away from information technology.

In this period Omnitel is the national best performer, but at the same time some operators started to create investment structures and aggregations at international level.

In 1999, in fact, the company's rate of growth slowed down, because, on the one hand, since it already had consistent shares of market, conquering new ones at the national level became more difficult and, on the other hand, the development of international strategies is made difficult by the conflictual strategies of some Omnitel's investors, who already operate in other countries

Outside of the EU, expansion was, in this period, very difficult since the markets were in the first place extremely different from the European ones and did not offer synergies with the experience accrued in Italy, and secondly because many South-American countries (the main possibility of investment in extra-EU markets) were going through a period of deep recession.

In order to exit from this impasse, a dramatic strategic choice was made, that allowed the group to remain in the TLC sector, but with a radically changed position: the selling of its own activity and the acquisition of the incumbent Telecom Italia.

This transition was due to two elements that followed separate paths and matured together, in a way that was not foreseeable a priori, and which made the acquisition possible:

- Olivetti-Omnitel's search for international expansion (discussed above);
- the problem of stability of the main Telecom shareholders.

In fact, Telecom at that time had problems too. After being the public telephone services monopolist for decades, it went through a process of privatization, ended in 1997, and in 1999 it had a core of control shareholders that was extremely poor in terms of consistence. In order to

correct this situation, that exposed Telecom to climbers, they asked Olivetti to join the core shareholders with a share of around 2%.

Olivetti's management, in front of this offer that acknowledged a situation of weakness of the control group, decided to take the control of the incumbent, an operation that was performed by acquiring, through a takeover bid on the whole company's shares, the majority of the capital of Telecom Italia³. On request of the antitrust and for financial reasons Olivetti had to sell its stakes in Omnitel and Infostrada. Once the acquisition was completed, the Olivetti group operated mainly in the field of telecommunications, while the industrial and information technology activity, were more and more marginalized.

In this occasion we can observe another change of role and, as a consequence, of perspective, on the part of the group that from being the second operator of the market, competitor of Telecom, become the owner of the same group.

Olivetti's strategic plan, drawn up at the time of the acquisition, envisaged that Telecom Italia and TIM (respectively fixed and mobile telephony operators) would be the central elements of the new group's activities. A secondary role was assigned to the satellite TV Stream and to Telespazio (provider of satellite services).

Concerning fixed TLC, Olivetti-Telecom carried out a progressive reduction of the prices (and of the margins) which counterweight the growth of data traffic and new services. In this context the management wanted to anticipate the tariffs trends, by reducing them, an action that had to be financed by imposing to the ex-monopolist a strong recover of efficiency, in particular by developing broadband (to whom they wanted to assign 30% of the investments of the new group) and an important rationalization of the telephone network with the purpose to improve the development capabilities of the group in the data transmission market.

The purpose of the programmed reduction of tariffs (for some traffic directions a 70% reduction of the tariff in the course of the following three years was planned) and of internet access costs, was to conquer the biggest possible slice of the 3,5 million new clients foreseen for 2002.

TIM, the new group's mobile operator, in the ideas of the management, should acquire an important European role, on one side through long-term agreements and alliances and on the other

³ The acquisition of Telecom by Olivetti represented the biggest share climb ever made in Italy until then. It is important, in order to understand the picture, to considerate the relative sizes of the two companies: Olivetti, in 1999, had a turnover of around 20,000 billion lire (10 billion euro) and around 25,000 employees, while Telecom, had a turnover of around 50,000 billion lire (25 billion euro) and more than 100,000 employees.

through the realization of considerable synergies with fixed TLC, through a commercial and operative integration with Telecom Italia. A company integration between TIM and Telecom was believed to be, in this phase, strategically wrong, because it could reduce the strategic and operative flexibility that TIM enjoyed.

For the international activities of the group, the management intended to operate through agreements and strategic alliances with highly innovative and technologically capable partners, in order to concentrate, in a market that was progressively moving toward sector specialization, on segments and countries that offered the highest rate of growth and the wider margins, without having to invest the enormous amount of money that would be necessary in order to acquire participations in other European countries.

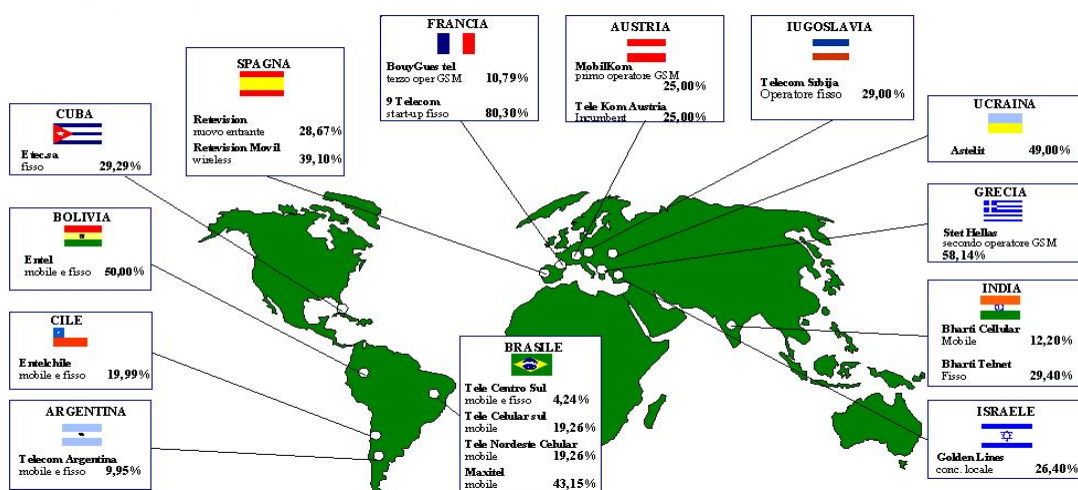


Figure 2 - Geography of Telecom's participations before Olivetti's acquisition

From the geographical point of view the participations of the group were concentrated, both for financial reasons and for rationalization needs, in Europe and South America; besides, the management chose to dismiss many of the non-strategical participations that the preceding management had acquired in the course of many years.

One of the reasons for maintaining only strategic participations was the fact that the new management wanted to have direct managerial responsibility in their controlled companies. Seeking for a clearer responsibility for the control of participations, the management was expected to simplify the internal control structure. This would have led to a clearer industrial vision aimed at supporting the strategy of internationalization that, in turn, would have made the participations more focused.

The information technology and industrial activities, at this point, were claimed as “non core” and the management expected to dismiss them as soon as they reached (through restructuring and creating strategic alliances oriented to transfer) a level of competitiveness that would allow them to be sold profitably.

Specifically, information technology activities included: Olivetti research, Wang Global, and Finsel; while the industrial activities included: Italtel, Sirti, and Olivetti-Lexikon.

<i>(Euro in milioni)</i> Attività	Controllo %	Risultati ultimi 12 mesi*		Descrizione
Attività di Telecomunicazione	NS	Fatturato	E20,616	Comprende tutte le attività di telecomunicazione consolidate in Italia e all'estero
		Risultato Operativo	4,717	
		Personale	93,981	
Telefonia Fissa Domestica	100%	Fatturato	E15,970	Telecom è uno dei principali operatori mondiali nella telefonia fissa
		Risultato Operativo	2,805	
		Personale	81,361	
TIM	52.5% ⁽¹⁾	Fatturato	E5,424	Il maggiore operatore nella telefonia mobile europeo
		Risultato Operativo	1,866	
		Personale	7,862	
Attività Informatiche (Finsel)	77.2%	Fatturato	E1,262	Finsel è il principale fornitore italiano di attività informatiche e servizi di rete
		Risultato Operativo	116	
		Personale	10,578	
Attività Manifatturiere (Italtel) ⁽²⁾	50.0%	Fatturato	E1,162	Italtel, in JV con Siemens, progetta, produce, installa e vende impianti di telecomunicazione
		Risultato Operativo	38	
		Personale	16,036	
Attività Impiantistiche (Sirti)	49.0%	Fatturato	E1,318	Sirti è dedicata alla progettazione e installazione di reti di telecomunicazione
		Risultato Operativo	136	
		Personale	10,947	
Servizi Multimediali (Stream)	100%	Fatturato	E11	Stream è un operatore di Pay-TV via cavo e satellitare
		Risultato Operativo	(127)	
		Personale	301	
Attività Internazionali (SMH e SIN)	100%	Totale Investimenti	E7,000	Vari investimenti in Europa e America Latina in operatori fissi e mobili

(1) Rappresenta l'interesse economico pari al 60.1% delle azioni ordinarie come da dati Telecom del 23 Marzo 1999 * Al 30/6/98

(2) I dati del fatturato e del risultato operativo si riferiscono al 50% dei risultati della joint venture Italtel-Siemens (Telsi Ttd)

Figure 3 – Telecom Italia's structure, by sector, in 1999, turnover data, operative result, number of employee and shares controlled by the holding.

The decision to dismiss these activities came also from the understanding that Olivetti no longer possessed, in these sectors, the technological capabilities and the relevant dimensions that were necessary conditions to win the challenge of global competition.

With respect to the 1997 forecast, it can be observed that the period within which the “foresee hazard” was made was reduced from seven to three years. This is a sign that the management became aware that, as time passed, their activity was going through an historical period when the growing complexity of the market made it impossible to trust long-term previsions.

The last focal point of the case study is the year 2005, and it allows us to analyse what happened in the period after the acquisition of Telecom Italia.

In the first place, in the course of the rationalization of the international participations, the management sold many of them (although one of the purposes of the acquisition was Telecom's many international links) in order to maximize the cash flow, needed to mitigate the financial difficulties caused by the high debt level of the new group, and to recover competitiveness in a sector where growth was no longer as fast as in the previous years.

In the period from 1999 to 2005 the management was strongly involved in shortening the group's control chain. In fact, always for financial purposes (they needed to bring the cash flow of the operative companies directly in the pockets of the Holding), they proceeded first to the incorporation of Telecom into Olivetti (that took its social name); and more recently to the merger of TIM (the company of the group with the greatest cash flow) into the new Holding.

With reference to this, after five years the decision labelled by a preceding management as "strategically wrong", has been realized after a change in the control asset and a complete replacement of the top-management.

In the 2005-2007 plan, Telecom aims at the convergence of its various services, in particular ADSL and television contents, foreseeing a new integration when the new digital terrestrial television will become operational.

The means of this integration is the possibility to vehicle TV contents (sport, film and pay per view) and other services through one interactive television and through the internet, giving customers the choice of an entire range of access possibilities, wired or wireless, to the entire range of Telecom's services: voice, internet and contents.

In order to bring forward this integration project, Telecom Italia believe that it is fundamental to invest in further growth of the internet's band capability and in the creation of new contents for interactive TV (pushing on innovation both on the hardware side and on the software side).

Since the mobile phone market is moving toward a new standard, UMTS, the value added services will become, in the management's opinion, the new "killer application" with the possibility to make video-calling and calling "enriched by the transfer of contents", the availability of TV on the mobile phone (both generalist and thematic, but in particular oriented on the transmission of football games) of "mobile office" services (like the synchronization of e-mail in the different devices and satellite localization) and finally the possibility to download entire songs on the cellular phone, thanks to agreements with the main owner of copyrights (Universal, EMI, BMG, Warner),

as well as simple wallpapers and ring tones.

The new Telecom bets in a important way on the television sector, in fact in this field is believed to be important for the purpose to realize important synergies with value added contents on internet and mobile phone.

Telecom Italia-media is the holding that contains the activities of the unencrypted television and of the digital terrestrial one: La7 (generalist TV), MTV (multi-channel TV specialized in music and youth culture) and Telecom-Media Broadcasting (an operator of the terrestrial digital TV).

The group's development plan for 2005-2007 foresees savings for 1.5 billion euro, through synergies achieved thanks to the new technologies, which allow for integration and convergence of sectors and channels, operating on three guidelines:

- the unification of the network infrastructure: integration of the two fixed network backbones (TDM for the voice and IP for internet) leaving only one of them, IP, which is simpler and cheaper to manage and to interface with the mobile network;
- innovation in the different value-added services and optimization of the sales channel. Besides savings, this innovation will give the possibility to create new services like: fixed-mobile video-calling, vocal access to services with operator or through web, "without-jumps" access to GPRS/UMTS/WiFi/DSL, centralized management of the customer address book;
- synergies on customer relationship activities and on the group's purchasing.

Between technology and marketing strategies: the reasons of Omnitel's success

A fundamental element in Omnitel's success, in the second half of the 1990s, was the choice of GSM (Global System for Mobile communications) - which in these years was becoming a standard (first at the European level then globally) - as the base technology for its mobile TLC network.

We can ask if the choice of this technology was due to foresight, or if Omnitel was just lucky. But when we observe this market it is quickly apparent that all the operators, and particularly the start-ups, in those years were adopting this standard.

GSM was born as an European project at the beginning of the 1980s, from the collective work of the associations of telephone operators of the continent (which at that time were mainly under public control), with the purpose to end the fragmentation of the European TLC market caused by the choice of different standards from state to state. This situation became particularly annoying as the number of mobile phone customers grew, since this prevented them from using their mobiles in other European countries.

In order to overcome the problem, a commission was constituted that set up, in the years between 1983 and 1987, a new technology for radio-cellular communications. It chose to use digital technology in prevision of the evolution in this direction of the fixed TLC networks. This decision allowed for the introduction of a new kind of flexibility, never experimented before, for the penetration of this market.

In Italy, before the diffusion of GSM technology, whose licence was assigned at the end of 1994 (sometime later than the Scandinavian countries that were introducing this technology already in 1992), there was the Tacs technology, that had a series of problems such as functionality limited to the Italian territory and a strong limitation in the services that could be offered. The adoption of GSM technology, first by Omnitel and later also by the incumbent operator TIM, was expected because it was preferable both on the technological side and on the commercial side.

But, how can Omnitel's success be explained, both with respect to the incumbent and with respect to other, however good, European operators performances?

A first considerable advantage derived to this company from the use, since the beginning of its activity, of GSM technology only, while TIM had to support also the more expensive and less flexible Tacs network (officially dismissed in the course of 2005).

But Omnitel's decisive competitive advantage came from the early adoption of a winning marketing strategy. In fact Omnitel's strategy in Italy had only one analogous in Europe: that of a Finnish operator.

The main invoicing procedure, used by the public ex-monopolist, in analogy with the long experience in fixed telephony, was that of the periodical bill. But, Omnitel's management observed that many of the potential clients, in particular those in the consumer sector, were reluctant to acquire a mobile telephone, worried that they might have to pay a fee also if they did not use it. Starting from this observation, the choice of Omnitel has been to adopt a low fixed cost strategy with clients, and to use rechargeable cards as the main method of invoice.

As a complement to this strategy, since it has been observed that the potential customers have very different habits in their use of the telephone, Omnitel's marketing department concentrated on the creation of a wide range of tariffs plans, between which the customers can choose the one that they prefer at the moment of subscription. This new flexibility is due to the new GSM technology on one side and to the strict relationship between the marketing department and the responsables for the development of the invoice system on the other.

A further differentiation element of the marketing strategy of this company has been the capability to create an efficient system of customer care through the development of a call centre able to answer, in short times and accurately, to the costumer requests and claims of the customers. These results have been possible thanks to the powerful information service available to the operators of Omnitel's customer service.

As can be observed, marketing and technology are both important elements of this story, but it is their interaction and combination that gave rise to the winning strategy that allowed Omnitel to recover, in terms of number of clients, the initial distance that separated it from TIM.

Gender and Diversity policies

The history of attention to the management of differences is quite long in this company, in fact it begins with Adriano Olivetti, one of the first Italian's entrepreneur who decided to face the social problems of works. Adriano began the construction of houses for the workers, refectories, child schools in the '50. These services furnished to the workers families put Olivetti at the vanguard, not only in Italy but in the whole world, following the tradition of the North Europe companies.

Moreover, in this years, the Olivetti gives attention at the development of the differences among employees competences. In this company it is possible to find not only technical-trained people, but also some highly skilled people from the field of humanities. For the top management the presence of these personalities creates an added value both for the product's quality and in level of the services offered to the customers.

In the years in which the company has entered the telecommunications' market, with Omnitel, the focus has been mainly on the construction of an innovative management free from pre-concepts and open to the novelties. In this context the Omnitel top-management focused in the

acquisition of the best managers and employees regardless to the gender differences. However, being Omnitel a company that directly comes from the Olivetti tradition, the attention to the diversity permeate also this company.

The company pursued its economic and development objectives in the respect of all its surroundings stakeholder among which are listed the human resources.

With respect to its employees the company acted catching the best from everyone and valorising their capabilities. This line of action has been enforced, on one side, through the development of courses and master for graduated students and, on the other side, with the realization of social spaces (such as kindergartens for the employees child, and fitness and training centres in the main company branches) for the employees.

In the field of gender management it must be underlined that about half of the employees, about 20% of the manager and 30% of the executive were female. The recruitment in Omnitel company always followed the principles of the equal opportunities.

Finally in the last years, those after the acquisition of Telecom, the culture of attention to the diversities and to the family protection, passed in the new entity. The indicators selected to measure the degree of attention to employees, in the sustainability balance sheet of Telecom Italia, are:

- Salaries politics;
- Training;
- safety and health;
- equal opportunity;
- industrial relations;
- company welfare.

In the 2004 Telecom' sustainability balance sheet, it is claimed that about the 12% of the managers and the 25% of senior executives were women.

In the attempt to reach a better balance between the work-time and the free-time of the workers

Telecom Italia has followed, in the recent years, a politic of company's welfare that comprehend:

- an offices who makes the bureaucratic practices for the employees (such as payment of fines, taxes etc.);
- a service, called "Easy Free-time", that can organize the employee free-time, and that hold special condition with: tour operator, railway companies, auto-lend companies and hotels chains;
- the restructuring of some company' refectories, substituted with more comfortable "restoration rooms".

These benefits can be used by every member of the company, and can be recognized as "Family friendly politics".

From the "gender approach" point of view, in 2003, Telecom launched a program called "Progetto Donna" (Project Woman), that is intended as a way to identify the initiatives to take in order to favour the women professional growth and the diffusion of the equal opportunities inside Telecom Italia.

In 2004 thanks to this project the following project has been financed:

- the realization of a portal dedicated to the initiative, with news and qualified information about maternity/paternity and to the growth of child;
- loans for the mothers;
- the introduction, in the company calendar of the Children's Day and the organization of numerous initiatives for the sons of dependents (summer schools, financial helps for the enrolment at the university, fellowships and Masters);
- the introduction of an on-line shop.

Moreover Telecom is studying the opportunity to develop a strategies to favour the re-entry of the employees after the maternity (such as kindergartens in the major company centres).

In the public sources available nothing is explicitly told about the "gender mainstreaming" approach to diversity and Gender management.

Concluding remarks

The story told in this case study shows how, despite the fact that the quality of the management that controlled the group always remained high during the period under consideration, the forecasts and the development plans have regularly proved to be different from what happened in reality.

This confirms that, in a environment characterized by ontological uncertainty, the classical theory of management seems inadequate and that the forecasts are extremely difficult and in some cases totally impossible. The classical prescription of management theory, that the uncertainty embedded in the company's activity should be reduced in order to realize accurate medium-long term forecast and invest on their basis, often result inapplicable or even harmful, in a environment of this kind.

As can be observed in this case study, enough significant forecast are possible only for the technological scenarios, while those related to the market' structure are only vaguely reliable. In fact, due to the presence of an uneliminable level of uncertainty around the role and the future directions of all of the market's operators, every attempt to make exact forecasts in this field results in a simple projection of the idea that the management has of the current role of the company.

Since companies and groups operating on many markets (also at the international level) must face an environment that continually changes, those previsions will probably result to be pretty unreliable. That this is the case (i.e. that the prevision of the role that the company will assume in the near future in the market is often an unreliable projection of its current position) can be verified through this case study, in at least two moments:

- when Olivetti was beginning the penetration of the TLC market, even if it understood the technological development of the mobile telecommunications, decided to give a relevant weight to the production of devices for this new market (more similar to information technology where Olivetti already operated), an investment that, given the unforeseeable evolution of the market, had to be abandoned after a few years in order to concentrate on the services segment;
- Omnitel understood that the reference technology, in the cellular communications market of the second half of the 1990s, would be GSM, but strongly underestimated the size that this market would reach.

The definition of a “belief”, that is a fixed interpretation of what is thought to be one’s own future role in agent-artefact space, should be avoided. Instead, management would have to define forecasts in such a way as to keep open the greatest possible number of options, being conscious that probably the environment that the organization will face, in the moment in which the plan will be put into effect, will not be as expected.

This way, in the business plan’s application phase, when it will be clear which role the company is going to assume in the competitive field, it will be easier to follow the correct option and it will be possible to gather the opportunities that the evolving market inevitably offer in that moment.

In the modern world scenario, a company that does not follow these planning “guidelines” risks to be strongly penalized by changing markets, and being forced to face an adverse competitive situation.

Olivetti, starting from the second half of the 1990s, has regularly applied a strategy of “option enlargement”. For example, even after the investment in Omnitel the company continued to search other promising sectors to enter in (like home automation which we briefly mentioned). It stopped to search only when it became clear that cellular telecommunications would be the industry of the future.

Even today (in 2005), observing that the market, because of technological changes that allow the integration of services, is changing its configuration, the new management of Telecom is committed to explore different sectors, thinking of the company not just as a telephone operator, but also as creator, producer and distributor of contents that can be vehicled on a wide range of different contemporary and future media. The moment the market will change its form the group will be able, consequently, to concentrate on the sector where it will have the greatest success.

The process of “belief destruction”, far from paralyzing the company’s action capabilities, allows it to act in a more realistic way in a changing competitive environment.

The way in which Omnitel was created is the clearest example, in this case study, of how this kind of process, if applied to the management’s choices, might lead to positive results. In fact, between the reasons for Omnitel’s success we can include the fact that, in order to prevent Olivetti’s consolidated *modus operandi* from conditioning the new company’s innovation potential, the group’s management decided that Omnitel had to be managed as a new entity, separated from the information technology and industrial activities and with an entirely new management team. This

strategic choice allowed Omnitel to begin its activity without preconception and to construct a new role and new method of action suited to the new market system that it was creating.

Often, even if it is not possible to clearly anticipate what the future will be, it is however possible to identify, with some approximation, what will be the drivers for innovation and change that have been relevant in the near past.

Sometimes it is the technology that drags the company toward a particular direction, some other times it is the marketing and commercial strategies that guide its path, and as a consequence the management must always try to verify, what is the prevailing driver at each moment and support it by creating the bigger possible number of generative relationships around it. In fact, generally, these relationships allow the company to interpret the direction of the change and to create new attributions around the role of the company and of its artifacts. Also using this approach however it is necessary to pay attention not to fossilize belief around one of the innovation drivers, because it can become irrelevant (for reasons that the company cannot control) and so lead the company on the wrong path.

In this story it is possible to observe a number of switches among innovation “drivers”, points at which the management (which in the observed period demonstrated the capability to increase their awareness of the fact that the market was becoming more and more a complex system) know that they have to re-define their role and the roles of those around them, in order to better understand the situation that is being created. In fact, if it's not possible to know the shape that every relational process and every dynamics that takes place around us will assume, the exact development of this process remains unknowable, but it is always possible to determine the general objectives that can be useful to follow in order to remain in the market.

Concerning the management of the business plan, it can be observed that, often, the managers want to give it a sense of logic and coherence with past choices. In the light of what has been observed in this case study, it seems to emerge that a company that wants to gain innovative potential, had better to preserve some level of incoherence because, if not, it risks to lose the “ambiguity” around the interpretation of its own role, that is at the root of most of its innovativeness.

Olivetti, in the course of its century-long history, has gone through periods of strong growth during which it became the European leader of his sector. This happened in the 1950s in the sector of typewriters, in the 1980s in that of personal computers and, limitedly to Italy, in the 1990s in the sector of mobile telephony.

But these moments of strong growth were followed by moments of dramatic crisis in the same fields in which the company was a leader shortly before.

Those crisis show how the leadership inside the group naturally tends to fossilize on consolidated paradigms, that in the preceding years brought success, making it harder to forecast the market changes enough in advance to produce timely changes in the business model in order to adapt and to consolidate the leadership.

But Olivetti's top management, even if it suffered a number of crisis events, demonstrated the capability to adapt to the growing market's complexity, because the group succeeded, in the periods of core business's crisis, in creating alternatives in new and promising sectors, showing resilience and attitude to change. The presence of these characteristics is proved by the fact itself that the group remains active, despite the numerous difficult moments that it went through, reinterpreting its own role and its perception of the environment.

In fact resilience must be considered as the capability of an organization to face changes by adapting its structure and functionalities in order to survive.

Resilience can be increased through the ability to maintain inside the company a degree of ambiguity (or a lack of precise definition of the role that the company wants to assume in the competitive context⁴). In fact, by maintaining this situation, the organization can enjoy two advantages:

- first it makes the re-interpretative process easier and it helps not to focus too much on the actual functional paradigms of the organization, that are fated to become soon, a useless weight to abandon;
- second, make the management free from trusting forecasts based on simple projections of the present, which in markets that become more and more complex frequently turn out to be wrong.

⁴ In fact, this situation leaves the agents free, to a certain extent, to interpret their role in the market in different ways. The interaction between the different ideas of company, that each of the relevant actor has, allow to reinterpret the role of the whole company in the market.

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