The Strategic Role of Suppliers in the New Service Concomitance

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Working Paper submitted to the 24th IMP Conference
September 2008
Uppsala, Sweden

Abstract

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Nowadays, technology allows to broaden the notion of concomitance to its positive meaning. Information & Communication Technologies enable more users to gather simultaneously in virtual places (whether in the Internet or in other platforms) and interact. This idea is linked to customers that, as the recent trends of marketing and consumer behaviour illustrate, looks for connections among them.

Concomitance, seen in this light, is an opportunity for innovation and not an operational constraint. That is why the paper focuses on the role of suppliers in supporting a company in its innovative project of a new concomitant service.

We empirically refere to the development of the first European service of mobile TV, recently introduced in Italy by the company 3 Italia. Mobile TV is a new service and it presents the challenges of concomitance. In order to develop such a new service, 3 Italia has created a net of strategic suppliers. .

Through the case study of 3 Italia and the comparison with its competitors, the paper illustrates how the company selected and manage this new network of strategic suppliers.

Keywords: Concomitance, Supply chain management, Services, Innovation, Emerging Business Nets

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1. Introduction

The concept of concomitance in service management was introduced by Eiglier and Langeard (1987) and it refers to the simultaneous fruition of a service from several customers, to the resulting relationships among them, to the management of such relationships by the company. In particular, this concept mainly refers to services delivered in a physical place clearly identifiable, where different customers use the service at the same time and they influence one another in the use of such service. Originally, the impact of concomitance on service companies was analysed and deepened mainly with reference to its negative features, in particular as an impediment in the management of the service operations. On the contrary, the coming of Information & Communication Technologies (ICTs) is highlighting the possibility to enlarge the concept of concomitance by freeing it from the limitations coming from its physical dimension, where it was traditionally placed.

This paper is mainly focused on the relationships between the concomitance and the management of the supply side. Suppliers play a strategic role in service innovation and operations and a gap in the literature emerges on the impact that the concomitance may have also on the supply management.

The paper is organised as follows. First, a brief review of the literature about the concomitance traditionally meant is presented, illustrating the main implications for the management of service companies. We focus on the impact of ICTs on concomitance, in order to redefine this concept. The role of suppliers and nets in innovation is then presented.

A representative case is investigated applying the principles of case-based research. The paper analyzes the project of television on the mobile phone by the company 3 Italia. This project is the first case of mobile TV in Europe. We analyse the process of selection of suppliers for the new service and the supply chain management decisions taken by the company. In addition, 3 short comparisons with the remaining main telephone companies of the Italian market are presented. Through the discussion of the evidences from such experiences, we can detect some relevant propositions about the impact of ICT on the concomitance and how supply management can play a major role in managing this impact.

2. Technology and concomitance

The concept of concomitance was originally developed by Eiglier and Langeard (1987). Concomitance is the consequence of the nature of services, mainly of the ones delivered in a specific physical place. It refers to the simultaneous presence of many customers to use the same service. The concomitant demand in services is due to the impossibility of the storage of a service, its perishable nature and the simultaneous presence of the one supplying the service and its customer. Queues at a bank counter or at the airports gates are a common expression of concomitance.

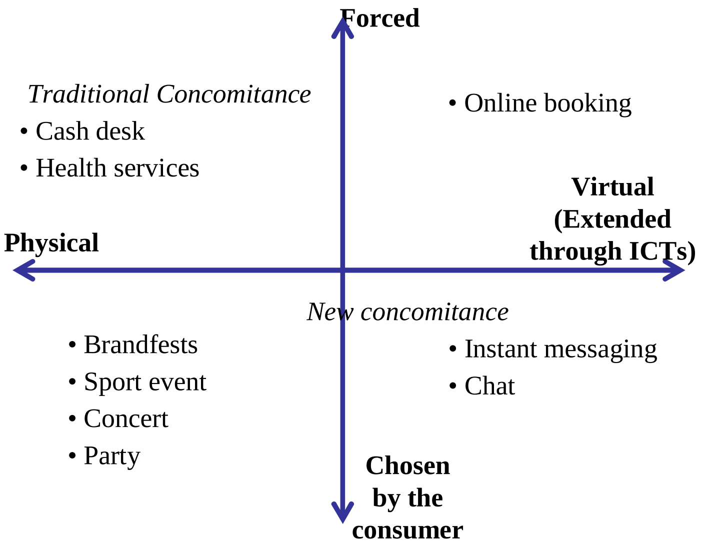
The concomitance seems to be perceived by authors in the service management mainly in its negative meaning. It is seen, indeed, as a kind of interference. The delays of a customer at a hotel check-out negatively affects the next customer, for instance. Such negative meaning probably comes from the managerial culture of the time when the concept was developed, focused on the importance of process efficiency.

On the other hand, consumer behaviour studies currently advocates the benefits of customers aggregations and communities. Consumers seek for connections and ties with other fellow people. Products, services and brands are not valued only for their functional or symbolic features, but for the linking value that they offer (Cova, 1997; Cova, Cova, 2002). Consumers form brand communities (Muniz, O'Guinn, 2001) to live the social experience of consumption and to engage in social actions linked to their preferred brand (Bagozzi, Dholakia, 2006; McAlexander, Schouten, Koenig, 2002). The aggregations of fellow consumers can be real or online. They can also be extemporary and not necessarily stable (Cova, Cova, 2002). Under this perspective, concomitance is not a negative factor anymore. Concomitance can be intentionally planned by a company to catch the tendency of consumers towards social consumption.

ICTs allows for new forms of concomitance. Concomitance is not strictly related to the simultaneous presence in the same physical place. Social Impact Theory (SIT) shows that “people are impacted by the real, implied, or imagined presence or action of a social presence (i.e., another person or group of people)” (Argo, Dahl, Manchanda, 2005, p. 207). By social presence we can mean the possibility to interact with other people, not physically located in the same place, but with the perception that the counterparts are really there in a common space. Current technologies enable the perception of the someone else’s presence at the distance as well. The innovative services based on the computer-mediated communication are based on such possibility. ICTs allow to extend the concept of social presence, including new ways of interaction, from the Internet to the mobile technology (Yates, Min Lee, El Sawy, 2005). A new form of concomitance emerges, based on the wider concept of a sought mediated interdependence among people.

Following this emerging perspective, the concomitance can be considered as follows (see Figure 1).

Figure 1: The dimensions of the concomitance (Source: Our elaboration)



We can devise two dimensions:

- Forced/chosen concomitance. Concomitance can be a collateral effect of a service, not chosen by the consumers. It is the classical case of queues. On the contrary, consumers can seeks for other people in a consumption setting;
- Physical/virtual. Traditional concomitance is referred to the physical space where more subjects are present. ICTs allow for virtual gathering of people.

The concomitance according to Eiglier and Langeard, traditionally meant, is physical and forced. In the above figure the new concomitance is located on the opposite side, extended by technology, which is not a negative aspect anymore, but intentionally chosen by the company and the client as the core feature of the service. Here the most innovative experiences about services can be concentrated. Finally, in the quadrant forced–virtual there is a technology enabling a forced concomitance: to buy a ticket on line implies the concomitant presence of several people that can make the service worse, but it does not imply the feeling of others’ presence or the active pursuing of social interactions. The remaining quadrant (physical-chosen) concerns the services where the individuals explicitly look for a real contact with other people.

3. The role of suppliers an strategic nets in the new concomitance

Suppliers play a strategic role for the development of new technologies and services linked to them. Radical changes in sectors cannot be brought by the company alone, but through the necessary collaborations of its key suppliers. The literature on the role played by suppliers in helping business customers in developing innovations is rich. Möller and Törrönen (2003) shows how supplier can be selected to create value jointly with the business customer. In particular, the supplier can be a partner that provides a future value. Innovative projects are in fact future oriented. In innovation projects, suppliers are chosen on the basis of their radical innovation capability and their capability to master the customer's business. Some proxies for these two capabilities are: number of technologies known, scientific and technical personnel, track records of suggestions improving the business of the customer, understanding of the business slogic of the customer (Möller, Törrönen, 2003, p. 115). Suppliers and above alla in innovativie projects - search for competencies (Golfetto, Gibbert, 2006; Möller, Törrönen, 2003; Ritter, Gemünden, 2003) that are beyond the mere supply of products or services. For instance, a supplier that shows a higher commitment or a long-term vision supported by innovative capabilities, might be preferred to suppliers that offer the best deals in terms of prices or mere products quality.
Suppliers act embedded in a network of partners and other suppliers. The network dimension is a focus of a more recent contribution by Möller and Rajala (2007). They have recently theorized the strategic business nets. Nets are intentionally created business networks to achieve a variety of business. The two authors distinguish (Möller, Rajala, 2007):

- Current business nets. They are applied to known technologies and stable sectors. For instance, the net developed by Dell around itself.
- Renewal business nets. They are particularly relevant for improvements within a given technological framework.
- Emerging business nets. These nets are present when new radical changes loom in an industry, with no certainties about the future developments. Emerging Business Nets are intentionally created to develop new technologies or business concepts An example is the nets hat has surrounded the development of the Bluetooth technology.

The concept of "new" concomitance can be positioned in the larger frame of the innovations brought to service sectors by ICTs (Karmakar, 2004). These innovations are not limited to the internal processes of a service company. They can directly impact on the entire business models, possibly creating new sectors. To correctly address the challenges presented by concomitance, the company cannot refer solely on its own competencies. Suppliers can play a strategic role, providing the business customer with the necessary competencies to compete in the new industry. Approaching concomitance as an opportunity, rather than a constraint, enlarges the scope of concomitance: it is not an operational issue anymore, but the inspiration for service improvements or even new business models. That is why suppliers can play a major role in the innovation effort of companies brought by concomitance.

The research question address in this paper is how a company can build its supply network to create a new service based on concomitance.

4. Methodology

We opted for a case-based research methodology, usually considered suitable for research area that is new or a little investigated (Dubois, Gadde 2002; Eisenhardt, 1989; McCutcheon, Meredith, 1993; Miles, Huberman, 1994; Yin, 1994) like in our work, dealing with the first European service of mobile TV. Our research does not intend to test hypotheses, but to suggest some propositions to verify in future researches and different contexts. We chose a focus on a highly concentrated and representative industry, the mobile phone industry in Italy, where one company (3 Italia) - followed by its three competitors (TIM, Vodafone and Wind) - is going to search for business opportunities coming from the concomitance.

The chosen case is the project of TV on the mobile phone, recently undertaken by 3 Italia, (the company of H3G Group operating on the Italian market) the fourth mobile phone operator in Italy and leader in the third generation mobile services. The case suits our research goal, because it concerns a technology exploiting the concomitance and a company that start using its characteristic as a source for business. The case study of 3 Italia is complemented by three short cases, regarding the three competitors. The remaining three cases have been developed in order to consider the 3 Italia case evidences from a general point of view, thanks to their comparison with the results coming from the other operators. From a methodological point of view, such modality has already been used in some previous works (Prévot, Spencer, 2006).

The comparability of the cases and the generalisation of our propositions to the whole industry comes necessary from the nature of the investigated companies, that represent, including 3 Italia, the whole population of mobile phone companies in Italy.

From the point of view of the operations and innovation management, 3 Italia had to adopt some original and peculiar solutions, at least with respect to the traditional context where the company operates. The redesign of the mix between core technologies internally held and strategic technologies, externally acquired thanks to the cooperation with suppliers, required a strong review of the combination of company competences, that in the mid and long term can have a high impact on its business model.

To develop the main case study, data and information have been collected in the third quarter of 2006. The data collection involved two senior researchers and one junior research assistant. Data were both qualitative and quantitative. The use of several sources was necessary in order to respect the principle of triangulation of sources and iteration, as suggested by specific literature (Eisenhardt, 1989; Yin, 1994). Qualitative data were collected through interviews, company material and visits to the company. We conducted semi-structured interviews with the project leader and his first level staff (5 people). We made three runs of interviews, through meetings or conference calls. Each interview lasted one to two hours. During each interview a junior researcher was responsible for the data collection, a senior researcher was in charge of leading the interview and investigating more in detail some specific topics. All the interviews have been written out and then analyzed by the other senior researcher, according to the “24 hours” rule (Eisenhardt, 1989). The second researcher, thus, pointed out the doubtful aspects, discussing them with his colleagues. Quantitative data comes from the company itself and public sources and databases: project documentation, feasibility plans and analyses, investor relations, investment and return analyses and public presentations of 3 Italia.

5. Case study

5.1. The context: mobile services industry in Italy

The Italian mobile services industry is among the most flourishing mobile industries in Europe. In the period 2001-2005 the Italian mobile traffic, measured in minutes, has increased by 15%, exceeding 60 billions minutes. At the same time, the traffic of the wired phones decreased by 1,9% (source: EITO). In 2005, more 65 people owned a mobile phone, that 1,3 times the population of Italy. Since 2002, the revenues from mobile services has exceeded the revenues from fixe-line (source: The Economist Intelligence Unit). As to the devices, Italy represents almost 17% of the European market of mobile phones. It is the second country after Germany. Competition is focusing on the value added services (VAS). This is the richest segment that in 2005 reached € 3,4 billions in revenues. The most traditional component of VAS – SMS (Short Messaging Service) and MMS (Multimedia Messaging Service) – is still the most relevant. Anyway, the percentage of innovative VAS increased, reaching about 32,5% of VAS total revenues, compared with 23% in 2004. The European Commission reports that Italy is first in Europe in the ranking of third generation services, with more than 10 millions subscriptions. In Italy the players of mobile phone for consumers are four: TIM (40% of market share), Vodafone (33%), Wind (19%), and 3 Italia (8%).

5.2.Technology standards for mobile TV

All the mentioned operators use the UMTS (Universal Mobile Telecommunication System) technology. Such technology nowadays represents a standard for the phone and mobile services world, capable to deliver multimedia contents too. Italy shows a widespread diffusion of UMTS, as illustrated by the data about the diffusion of W-CDMA platforms, supporting the UMTS technology. The Italian operators are among the ones with the highest number of subscribers.

Thanks to its high performance, UMTS gave a fundamental incentive to the convergence of voice, data and the Internet traffic. Besides, such technology recently has given the possibility to integrate the television as well in the same devices. Such application has been made possible thanks to the evolution of portable tools with size of displays and duration of batteries sufficient to watch a television content. Television contents delivered through the UMTS technology are broadcasted in streaming. However, their delivery is limited in case of concomitant use from several users: the more the simultaneous accesses to the service, the more the quality of the image clearly spoils, because of the using up of the bandwidth from each consumer. Thus, UMTS is not a concomitant technology in the sense shown before. UMTS is a mere convergent technology, since it allows to use different services in the same hand-held device.

To overcome this issue related to the concomitance, the DVB-H technology (Digital Video Broadcasting – Handheld) has recently been developed. This technology is derived from the digital terrestrial technology. DVB-H combines the digital video standard and the Internet Protocol, dividing the content into data packets to be transferred to the mobile phones. In this way, the data weight is reduced and it is possible to transfer them, keeping a high video quality. Besides, the DVB-H uses a different network from the telephone one, making the two services independent one from the other. In addition, such technology enlarges the opportunities of interaction between the customer and the service supplier. In fact the user can send data to the service provider through the DVB-H system. The DVB-H is the next stage in the convergence of data, voice and television and at the same time it overcomes the problems related to the concomitance of using up.

5.3. 3 Italia

In 1999 Tiscali and San Paolo founded Andala UMTS, which in 2000 won one of the five UMTS licenses available in Italy. In the same year Hutchinson Whampoa became the main shareholder of Andala, that was re-named H3G Italia (also known as 3 or 3 Italia). The 3 Italia vision is based on the convergence among telecommunications, the Internet and media into a unique, multimedia, mobile, and personal tool. Such vision is supported by the social, economical and technological trends, such as:

- The need of customers to be “always on”;
- The role of mobile telecommunications in improving the labour productivity, thanks to richer information, real time transactions and a high data exchange. Such role is played more and more also for small and medium enterprises
- The convergence into a single mobile device of mobile phones, videophones, electronic agendas, cameras, music players, game-consoles, television and positioning systems
- The digitalization of every kind of information and communication, the huge adoption of the IP protocol, the exponential growth of the broadband transport capacity, which make services, once available exclusively in specialised infrastructures, available on several networks.

The vision of 3 Italia led the company to position itself as a mobile player offering video calls, fast Internet access and different kind of contents such as TV, videogames, news, and music. In 2001, 3 Italia started to build its own UMTS network. In the meantime it reached an agreement with the competitor TIM for the GSM roaming. In 2002 the company launched the brand “3” and during the following year starts the commercial launch, exceeding 300.000 subscribers at the end of 2003, with a population coverage of 59%. In July 2004 the company exceeded one million subscribers, going on investing to improve the coverage and to develop relationships with partners and suppliers, such as LG. In August 2006 the company had 6,8 millions subscribers, which made 3 Italia the leader company in Italy for the UMTS services.

In July 2005, 3 Italia decided to enter the business of the television on the mobile phone, in order to exploit the typical advantages of the first mover. Such choice was supported also by the forecasts of the Italian Authority for telecommunications, that estimates 25 millions DVB-H subscribers in Europe within 2010, 5 millions of which in Italy. 3 Italia was firmly convinced that such new service would boost all the other VAS, with the overall effect of increasing the ARPU (Average Revenue Per User). The change of the company was stressed in every public meeting by the words of the CEO, Vincenzo Novari, who never lost the opportunity to remind the market and the employees that the firm was becoming a media company in every respect, with its own production of television contents and direct investments in the digital television network.
The basic idea was that to launch such a significant service 3 Italia should lever on:

- An event of great importance and resonance
- A network covering the whole country
- A platform devoted to mobile TV
- Exclusive and appealing contents
- A new hand-held device specifically conceived for mobile TV, although comprehensive of every other mobile service.

To support the launch of the mobile TV service, the company chose the FIFA Football World Championship that was held in Germany from June to July 2006. The rationale was that any user wishing to watch the football matches should had chosen between Sky (the digital TV broadcaster holding the rights for all the World Cup matches) and 3, in addition to Rai (the Italian State-owned television and radio broadcasting company, which broadcasted some of the main matches, including the ones of the Italian team). It was necessary to strictly respect the May 2006 deadline to start the DVB-H service, before the World Cup inauguration.

Hence, 3 Italia had to develop and start the new mobile TV service in just 9 months, while 2 years would have been a more reasonable time. Such decision was certainly risky, taking into consideration that the main companies (among them Nokia, main supporter of DVB-H) and the industry experts considered that the market would be ready for the new service only in the second half of 2007. The complexity of the project implied some critical decisions for the company. The first decision was related to the selection of a project manager, who had to have at the same time specific technical skills, commitment and leadership capabilities. The second choice was linked to the company's level of competences, inadequate for the new business. Thus, the company decided to entrust the service development to external partners, retaining as a core competence the development of the network for the diffusion of contents.The limited time of development and the need to find on the market some specific and updated competences, not held by the company, led 3 Italia to an accurate evaluation of suppliers.
In such evaluation, therefore, some features of the potential suppliers have been taken into account, namely:

- Basic processes
- Organizational structure
- Resources assigned to the project
- Operational conditions
- Reputation
- Expectation of mutual development and improvement.

The suppliers' evaluation was made on the basis of several criteria, particularly considering the strategic goal of time to market.

The players involved in the supply of the mobile television service belonged to quite different sectors and each of them is a key element for the new mobile TV service:

- Mobile Components Providers
- Mobile Network Providers
- Handsets Providers
- TV Content Providers

Mobile Components Providers

The project started formally at the end of August 2005, with a meeting between 3 Italia and the providers of the SIMs and of the Conditional Access Systems (CAS), that are the suppliers of the decoders installed in every mobile phone to receive the signal. The meeting aimed at evaluating the best solution to guarantee the security of contents and at the same time to reduce to time to market.
As regards the SIMs and CAS providers, the involved companies were:

- NagraVision, a company with a high reputation, already supplier for the Mediaset (the main private TV broadcaster in Italy) digital terrestrial television. The NagraVision's technological offer could solve not only the contents security problems but also some problems linked to the management of SIMs, thus allowing a remarkable time saving
- NDS, leader of the market, that just after the first meetings had not proven to be able to guarantee the required commitment, flexibility and willingness to invest.

NagraVision was chosen because the company was already a Mediaset supplier for the digital terrestrial television and as such it had a very good reputation (Mediaset is the main private TV broadcaster in Italy). In addition, the NagraVision proposal solved not only the problems of content security, but also the issues related to the management of the SIM technology, thus allowing a great reduction of time. The leader of such sector, NDS, was not considered suitable both from the technological and managerial point of view.

Mobile Network Providers

To develop and manage the network, 3 Italia entrusted the development and management of the platform to Reti Radiotelevisive Digitali (RRD). RRD manufactures a system that can be located in any transmission site (cellular transmission sites, for instance) to transmit the DVB-H signal. Currently, the DVB-H signal reaches around 40 million people in Italy, that is 75% of the Italian population. RRD granted a scalable system integrated with all DVB-H handsets already available in the market. The developed platform represents not only a valuable network for the programs transmitted by 3 Italia, but it can potentially be the reference for other broadcasters, operators and manufacturers, allowing such players to exploit opportunities coming from DVB-H and develop new streams of revenues for 3 Italia.
RRD assured future opportunities and economies, coming from the platform scale, was a partner capable to support the accomplishment of the network, in terms of design, planning and deployment. Furthermore, RDD showed a great capability of providing support and maintenance services. Other companies like the market leader (a company of the Mediaset group specialized in the infrastructures) did not have the requirements to support the 3 Italia strategy and would only rent the network.

Handsets devices providers

3 Italia contacted all the suppliers potentially capable to produce the handsets for the mobile TV (see Table 1).

Table 1: Handsets providers comparison

	Samsung	**Motorola**	**Nokia**	**LG**

Technology	DVB-H and MediaFlo	DVB-H	DVB-H with integrated CAS *phone-based*	DVB-H and MediaFlo
Time to market	Available prototype in August 2005	Prototype not available in August 2005	Developing the security system for contents	Prototype not available
Willingness to invest	Willing to create a task force		Willing to invest, but holding some control on the choices	Willing to create a task force
Market position	Growing market share. Strong competition with LG	In the past the company seemed to be slower than competitors in the adoption of new solutions	Market leader. Promoter of the DVB-H standard.	Previous partner of 3 Italia. Strong competition with Samsung.

At the end of the process of evaluation of providers' competences, 3 Italia choose to rely on parallel sourcing, that is assigning an order to different competing suppliers to stimulate them to respect delivery times and quality standards. The company established a relationship with LG and Samsung to design and produce TV-phones technologies. The two companies were considered more willing to invest in a partnership with 3 Italia and quicker than other companies in developing the required technologies. The first supplier to be involved in the project was Samsung, because they had a TV-phone prototype available already in 2005. In order to reduce to a greater extent the time required to improve the prototype and increase the quality standard of the device, 3 Italia involved also the main competitor of Samsung, the Korean LG, a previous company supplier for the UMTS videophones. Thus, a dedicated centre of research was established in Rome, where two task forces, each one with of 30 technicians belonging to the two suppliers, were improving the prototypes, in close cooperation with 3 Italia. Such kind of solution, despite the total lack of direct communication between the Samsung and LG's task forces had the effect to stimulate the faster development of a finished product specific to the 3 Italia's needs. The industry leader, Nokia, was not considered as suitable to support the 3 Italia strategy of quickness, because it was clung to its own standard, which, also after the choice of the DVB-H standard, turned out to be failed.

TV Content Providers

In September 2005 3 Italia bought the television channel Canale 7 and the license to broadcast digital terrestrial signals. Therefore 3 Italia officially became a media company. Hence, it needed TV content providers. The company selected the three main TV broadcasters in Italy: Rai, Mediaset and Sky. Rai and Mediaset cover more the major part of the television market and their TV programs are followed by a wide audience. Their portfolio include many celebrated programs, imported form the foreign market (for instance US fictions) or internally produced (such as game shows and talk show). Hence, a partnership with such players allowed 3 Italia to have the availability of several appealing events (MotoGP, the major league championship, Uefa Championship League), in addition to some formats already well-known and appreciated by the Italian TV viewers. The cooperation with Sky, besides the above mentioned opportunities, gave 3 Italia the possibility to make use of some channels specifically developed for the mobile TV: Sky Vivo Mobile, Sky Sport Mobile, Sky Cinema Mobile. Considering the significantly lower number of Sky customers in comparison with the audience of Rai and Mediaset, Sky itself had showed a greater willingness to the development of ad hoc contents.

The mobile TV would have represented a new delivery modality for Sky. On the contrary, Rai and Mediaset had refused to provide customised programs to 3 Italia.

3 Italia has also launched its own channel, La3Live, directly produced by the company (a second channel internally produced is La3Sport). The schedule of La3Live is based on the presentation of the various programs that are aired by the other channels of the mobile TV. The channel La3Live is still in its initial stage of development, however it presents an interesting application of concomitance: the service Inbox Live. The viewer can send SMS and MMS to MMS to be live program and communicate with the TV presenter (called 3jay). Some of the messages are aired live and they become visible to all the audience. The presenters may also comment the messages. Inbox Live is not only a form of interaction between viewer and TV in the mobile sector. It represent a starting point for future development of real concomitant services. In fact, the program is broadcasted to an audience and each member of this audience can interact with each other, just like other concomitant services. This modality is already applied in common non-mobile TV: in many programs, viewers can send SMS or call the show. The difference is in the higher potential represented by the mobile technology. The viewer employs the same device to see TV and interact with the program and other subjects. The handset is a comfortable way to use all the options that a truly interactive TV service should offer. This aspect, paired with the personal nature of the mobile phone, would likely increase the propensity to interact.

Accenture was then selected for the billing platform, because it was already experienced in the telecommunications industry and already supplier of 3 Italia and all the other operators. In this case, the degree of required innovation was practically inexistent and the leader was the ideal supplier, because the soundness and reliability of its solution represented a guarantee of quality.

At the end of the process of evaluation of suppliers' competences, 3 Italia established a network made by LG and Samsung to design and produce telephones, NagraVision for the CAS technologies, RDD to install the network, the three main TV content providers (integrated by internally developed programs). Such heterogeneous team, made of internal and external competences, allowed 3 Italia to start the project of television on the mobile, exploiting the integration between UMTS and DVB-H. The DVB-H television services were launched by 3 Italia in May 2006. Finally, 3 Italia established the 3 Power department, which has the role of promoting the DVB-H for business-to-business among the other telephone operators all over the world.

5.4.Comparative cases: the other mobile operators in Italy

TIM

TIM (brand name originally drawn from the name Telecom Italia Mobile), the previous monopolist, still remains the market leader with 30,4 millions customers and a 40% market share. TIM significantly invested in the EDGE technology, a 2.5 generation technology, thus focusing in the past on that standard rather than on the UMTS development, which is a strategic goal today.

TIM launched its TIM TV in 2006 with the target of the 70-75% coverage of the country within 2007. TIM itself offers contents based on the DVB-H, providing programmes from the following channels: Canale 5, Italia 1, La7, MTV, Sky TG24, Sky Meteo24, Sky Sport24 and Sport Italia. The main offer in TIM TV is the Italian football championship, together with some matches of the main European championships. TIM is also the main sponsor of the Italian championship. Unlike 3 Italia, TIM does not have at present its own channels nor interactive services with its customers. Thus the television offer is a pure broadcasting.

Vodafone

Vodafone Italia is the second mobile company in Italy, with a 33% market share and 26,2 millions customers, of which more than 3 millions are UMTS subscribers.

After 3 and TIM also Vodafone presented its mobile television offer: Vodafone Sky TV. The partnership with Sky was established in December 2006. The sole mobile phone enabled for the service is LG KU950 distributed by Vodafone. Vodafone Sky TV includes nine channels. Vodafone chose not to offer on the mobile the same Sky channels already existing, apart from the two news channels, SkyTg24 and SkySport24 and the new channel Sky Show. The other channels are Disney Channel Mobile, FX, Cine Shots, Fox One, SILive24, DJ TV . The DVB-H offer of Vodafone still is limited by the availability of a single enabled telephone and, looking at the company's communication campaigns, it seems to be poorly emphasized, to advantage of the so-called Live TV, which represents the UMTS streaming modality.

Wind

Wind Telecomunicazioni is the third mobile operator in Italy, with a 19% market share. From 2003 Wind offers on an exclusive basis the i-mode service, created in 1999 by the Japanese company NTT DoCoMo to transfer to the mobile phones the Internet contents and services. The i-mode platform is available both with GPRS and UMTS technology.

Wind is one of the few operators in Italy to offer integrated services of wired and mobile telephony and the Internet. The UMTS launch goes back to 2004, year in which Wind buys Delta, a system integrator for Information and Communication Technology services. The UMTS is used to increase the connection speed for the i-mode services. The Wind's UMTS coverage is lower than its competitors.

At present Wind does not have a specific offer for the mobile television, neither using the UMTS streaming nor using the DVB-H.

6. Discussion

The meaningful advantage of the DVB-H technology in comparison to the UMTS is the management of concomitance:

- Operationally, DVB-H provides the possibility to support the supply of the service without loosing quality, even in the presence of several users
- As a richer business innovation, experiments like the channel La3Live shows that concomitance can be an extension of the mobile TV, opening the path towards a new way to interpret mobile TV.

In the following matrix we try to summarise the concepts of convergence and concomitance and at the same time to highlight the development underneath the new technology DVB-H.

Figure 2: Convergence and concomitance through the DVB-H technology (Source: Our elaboration)

Concomitance \ **Convergence**	Low	High
High	TV	DVB-H and Mobile TV
Low	Personal services (i.e.: doctor visit)	UMTS

The DVB-H technology represents a transition from a technology typical of the telecommunications industry to a broadcast one, similar to the television industry. In the first approach, the reference paradigm is a one-to-one phone connection, that is the conversation between two people. In the broadcast technology the relationship is among a broadcasting subject and many receivers. In addition, DVB-H allows the interactivity between the user/viewer and the TV content or other users.

The analysis of our case shows that the industrialisation of services can be considered as a renewal of the concept of concomitance, that, in turn, has an impact on the company processes of innovation, operations and supply chain management. The concomitance first of all reshapes the company's core competences and the industry structure. Secondly, it causes a redefinition of the business model and it requires a different policy of managing the relationships with the supply network, that becomes an essential partner to sustain a competitive advantage and protect the complementary competences. To address these challenges, 3 Italia had to redefine its competencies and to achieve such change it relied on external suppliers as competence-providers (Golfetto, Gibbert, 2006; Möller, Törrönen, 2003; Ritter, Gemünden, 2003) and, when necessary, to the internal development of competences (i.e. La3Live channel). 3 Italia intentionally created an *ad hoc* new network of suppliers. The choice among all the considered suppliers has been made among those having the following requirements:
- Low degree of overlapping between the customer and the supplier's value chains (applicable to all the above mentioned strategic suppliers)
- High degree of mutual trust and availability to shared investments (most of all Samsung and LG)
- Consolidated experience in the business (applicable to all the suppliers)
- Prospects of a joint development in the business (most of all for LG, Samsung and NagraVision)
- Willingness to create ad hoc mechanisms of governance to the development of the innovation projects (LG and Samsung).

These characteristics make the network created by 3 Italia similar to an *Emerging Business Net*, referring to the taxonomy suggested by Möller and Rajala (2007). In particular, the net created by 3 Italia can be classified as Application Net, that is "formed to support the race for achieving commercially viable business application out of the evolving technology" (Möller, Rajala, 2007, p. 900). In our case, the emerging technology is that of DVB-H, that is a standard technology not applied yet outside Korea. The commercial application is the mobile TV. Significantly, Möller and Rajala mention emerging mobile services as a typical case of application nets and call for studies in this . The emerging business nets require deep collaboration and trust between customer and suppliers. In fact, 3 Italia selected its suppliers not only for their specific technological capabilities, but for their capability to build a successful partnership. Leaders were not necessarily the best suppliers. With the explained exception of Accenture, none of the suppliers was a leader in its sector. The TV content providers are the unquestioned leaders in their industry, however they were integrated by the internal production of the La3Live channel and its experimentation of new TV languages. In fact media companies were less willing to customize and change their content for the specific and new requirements of mobile TV.
Beside the development of the technology, application nets are also characterized by the need to create "marketing, distribution, and production system for the application" (Möller, Rajala, 2007, p. 904). Marketing was a central concern for 3 Italia, that launched the new service by sponsoring the soccer Word Cup, that is a core sport event for the Italian customers and TV viewers. The partnership with media companies and the attempt to produce internally some TV content are in the same direction of creating attractive content for customers, that is a key for any new mobile technology.

The comparison of the 3 Italia case history with its three competitors show that the other mobile operators did not succeed in creating an application net similar to that of 3 Italia. The operators holding a dominant position in the market of normal mobile services had a cautious approach, as it could be predictable, confirming the vast literature on the tendency of leaders to "reject" innovation (see also Christensen, 1997 and 2006). The market leader TIM is a typical fast follower with a wide

offer, but no use of the concomitance. The TIM's pursuit is about the technology, not the business model and the applications of the technology. The second player Vodafone has an offer partially overlapping the previous services, not particularly distinctive nor publicized: a single telephone and a limited TV programming. The third player Wind is a late-comer and focused on its i-mode technology. The difference between 3 Italia and its competitors is striking: 3 Italia aims at differentiating itself by applying the business model of a new media company, instead of being a pure player in the mobile industry. Given this aim, 3 Italia developed an Emerging Business Net. On the contrary, the three competitors continue to rely on their existing suppliers networks.
3 Italia currently accentuates its orientation towards the innovation of its business model, by offering a portable television device (not a telephone) using the DVB-H standard.

7. Limits and future research

The main limit of this paper is the embryonic nature of the investigated case history and the resulting exploratory configuration given to our investigation. Such exploratory nature makes the relative weight of the interpretation higher than the weight of data, more than in the case histories based on longer company experiences. The findings of the research (although covering the whole Italian mobile TV sector) cannot be easily generalized to other sectors. This limitation is due to the peculiar and experimental nature of mobile TV, quite different form other sectors. However, a cursory look at sectors where concomitance is present seems to show the key role played by suppliers. For instance, eBay strongly bases its business model on concomitance many sellers and buyers are present in the web platform provided by eBay. Sometimes it is even a race of putting the last offer just few seconds before the closing of the auction, winning over participants. In order to keep this business model running, eBay needs technologies from suppliers such as PayPal; a supplier so strategic that was then acquired (in 2002) by eBay. A similar reasoning holds for Skype. A direct and personal contact between a seller and a buyer can enrich the transaction. Skype, the main VoIP (Voice over Internet Protocol) player

3 Italia has even reconfirmed the role of suppliers with its agreement with the main: Skype. A new way of communicating, heavily based on concomitance, has been developed with the partnership with a supplier like Skype.

In particular, only the future evolution in the use of the mobile TV will provide tangible empirical evidences about the way the 3 Italia users concretely will use the new services. Consequently, the authors propose to monitor the evolution of the project in question in order to validate, in the following phases of the research, the application of the theoretical frame. Furthermore, through the dynamic monitoring of the illustrated case history and the extension of the study to further experiences of new concomitance, the authors propose to verify the impact of the concomitance on the operational and supply chain management processes, once the service has completed its initial stage.

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