Although the current strategic discussion in the mobile telecommunications industry is focused on the realization of UMTS strategies and business models (Schweizer et al., 2002), it is still the GSM-technology and its related businesses that generate the revenues of the mobile communications operators. Among all different mobile communications standards GSM is by far the most successful one with a share of about 70% of the one billion mobile subscribers (GSM World, 2002). The biggest regional GSM cluster is Western Europe where the mobile market hit – ten years after the launch of the first GSM network – the 300 million subscribers mark at the end of 2001. After yearly growth rates of about 100% and more, the subscriber growth slowed in Western Europe in the last two years and reached 63% in 2000 and 17% in 2001. This reflects the high level of market penetration which has reached 70-90% in almost each Western European country. The use of GSM has become a commodity and – at least from a penetration point of view – the GSM-market has entered its maturity phase which makes it an interesting analytical object.

This paper will deal with market entry and competitive strategies in the GSM-market by analyzing the very distinct success stories of two third entrants. The starting point of our analysis is the paradox between the homogeneity of the GSM-markets in Western Europe and the significant differences in the performance of the GSM operators: The GSM-markets in Western Europe have similar market characteristics with respect to the product offering (voice telephony with few value added services), the supply side (licensed markets; 3-4 competitors), and the demand side (mass market; high penetration rates), but performance indicators like market share, EBITDA margin, average revenue

**Abstract**

This article deals with the market entry and competitive strategies of two third entrants into the Western European GSM market: The Greek mobile communications operator Cosmote and the German operator E-Plus. Starting point of our research is the analysis of the entire Western European GSM market, which shows a broad variance in performance indicators of the operators although the market characteristics regarding the product, the supply and the demand side are quite homogeneous. In order to explain the performance variance and the success of late movers we examine the market entry and competitive strategy of the most successful third entrant in Western Europe, Cosmote, and contrast this case to E-Plus. The market environment and the company characteristics of both companies are similar, but their performance differs significantly. The major results of our analysis are (1) that quality of service, including particularly the network coverage at launch and in the first stage, is more important than time to market, (2) that the image of an operator depends strongly from the customer’s perception in the starting phase, and (3) that the commitment in combination with the resources of the shareholders are crucial for the operators’ success.

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per user (ARPU), and share price development show a broad variance among the operators within a country as well as between operators in different countries. Some of the differences within a country can be explained by the time of market entry: As the awarding of the GSM licenses normally took place at different times within each country, in many cases the first movers could capitalize on their first-mover-advantages (Lieberman & Montgomery, 1988; Kerin, Varadarajan & Peterson, 1992; Lieberman & Montgomery, 1998). However, in some cases the second and third mover show a similar performance like the first mover by using their attacker’s advantages (Lieberman & Montgomery, 1988; Foster, 1986). The Greek third mover Cosmote even outperformed its competitors: Although having started its commercial operations five years after Vodafone and Stet Hellas, Cosmote became the number one in the Greek mobile communications market in terms of market share, EBITDA margin, ARPU and share price development within three years. We will discuss this tremendous success and compare Cosmote with E-Plus, the German third entrant into the GSM-market, whose competitive environment and company characteristics were very similar to those of Cosmote, however, E-Plus was by far less successful. Thus, the central research questions of this paper are: (1) How can the performance difference between the two companies be explained? (2) What are the specific capabilities/competencies of Cosmote that made it so successful? (3) What lessons can be learned from these cases?

As far as the issue of entrepreneurship is concerned the mobile telecommunications industry is probably a special case because the ‘normal’ understanding of entrepreneurship as small firm behavior and strategy does not apply in this context. In fact, newly formed mobile telecommunications companies such as Cosmote or E-Plus face an even greater problem because they need to build up a new company which is much bigger than ‘normal’ entrepreneurial start-ups. However, considered from our point of view, building up such a new company that competes with other players in the telecommunications sector is nothing else than an entrepreneurial activity – of course, some kind of special case of entrepreneurial activity.

The structure of the paper is as follows: After a short description of the research methodology in the next section the subsequent section provides an overview of the homogeneities of the Western European GSM-market and the performance differences between the operators. After that we describe the company characteristics and market environments of Cosmote and E-Plus while the next section thereafter analyzes the cases of both companies and tries to answer the research questions. In this section, we will also make some references to theoretical concepts that support and explain some of our conclusions. Finally, we give a summary of the results and an outlook for future research.

Research methodology

Given the exploratory nature of this study and our interest in understanding what really makes success strategies in the mobile communications industry work, a considerably detailed approach is called for. Hence, we decided that – after an analysis of the market structure and a quantitative analysis of the total market which revealed the paradox between homogeneity and performance differences – qualitative research and, more precisely, a multiple case study design would be most appropriate (Eisenhardt, 1989; Yin, 1984; Glaser & Strauss, 1967).

The sampling of the case study is crucial for later analysis, as the choice of the sample tends to influence the results of the study (Miles & Huberman, 1994). When analyzing a rather small sample of cases – as it is in this study by choosing two case study companies – extreme research sites, also called ‘polar types’, are supposed to be chosen (Pettigrew, 1990). Having this in mind, we decided to analyze the market entry and competitive strategies of two third entrants, Cosmote (Greece) and E-Plus (Germany). The ‘polar types’ are represented by the fact that Cosmote turned out to be a high-performer by becoming number one in the Greek mobile telecommunications markets within three years of operations whereas E-Plus has the lowest market share of all third entrants in Western Europe. The comparability of the two cases is given due to the fact that both companies started their operations in a very similar competitive market environment and had quite similar company characteristics. Given the qualitative nature of most of the data sought, triangulation was one of the most important means of increasing construct validity and substantiating findings. Archival documents such as annual reports, articles from the business and trade press, company press releases and investor presentations as well as reports from several investment banks were an important source of information, especially for the E-Plus case. As far as the Cosmote case (which is also the more interesting one) is concerned, we had the opportunity to carry out two face-to-face interviews in Athens (Greece) with the Managing Director of Cosmote, Evangelos Martigopoulus, and the Head of Investor Relations, Myrella Ioannidou. Those interviews were taped and fully transcribed.

The Western European GSM markets:

Big performance differences of the operators despite homogeneous market structure

Although big international mobile communications groups like Vodafone (UK-based), Orange (based in France) or mmO2 (UK-based) are active in many countries in Western Europe, the licenses to operate a GSM network are awarded by national authorities and
they are limited to the area of each nation. Therefore, it is necessary to have a closer look at the national markets in order to analyze the structure of the GSM market. This shows that apart from some unique developments the market evolution and the market characteristics are quite comparable in the Western European countries.

First of all, the product offerings are very similar: The main service of GSM is voice telephony which generates 85-90% of the operators’ service revenues. Different value added services like voice mail, Short Message Service (SMS) or access to the Internet count for 10-15% of the service revenues. Each operator differentiates between business and residential customers and offers specialized packages for them, as well as there are prepaid and postpaid services.

In addition to that, for the customers there is almost no difference between GSM networks which operate in the 900 MHz frequency band and GSM networks which operate in the 1,800 MHz frequency band: The bandwidth (9.6 kbit/s) is the same and differences in voice quality are only very slightly in favor of the 1,800 MHz band. Meanwhile, many operators use both frequency bands. A piece of evidence for the homogeneity of the products is the fact that competition was very often driven by prices which declined significantly during the market evolution of GSM.

Secondly, the supply side shows a homogeneous market structure: Operating a GSM network is a licensed business and, therefore, the number of market participants is strictly limited. In most of the Western European countries there are three or four GSM operators. In contrast to UMTS, the GSM license awarding took place in different years and, so, in many countries there were one or two first movers which launched its network in 1992 or 1993 and one to three followers which started some years later. In each country the GSM licenses comprise requirements like to reach a minimum coverage in a specific range of time. Other areas – as pricing or the arrangement of product offerings – are not regulated.

Finally, there is a homogeneous market structure on the demand side. Although there were different growth patterns in the market evolution of GSM – the market penetration in the Scandinavian countries grew faster than in other countries – meanwhile, GSM has become a commodity and the penetration exceeds 70% in almost each of the Western European countries. The markets comprise business as well as residential customers and with a very few exceptions (e.g. Finland) prepaid customers represent a considerable share of the residential customer base.

Despite these market homogeneities the performance of the operators differs significantly. Before having a closer look at the results, we have to define what the key performance indicators of mobile operators in Western Europe are: Apart from maximizing shareholder value, gaining market share was a key target for almost each operator until the market penetration reached its saturation level in 2001. Moreover, the market saturation was caused by the fact that the major share of the new subscribers in 1999 and 2000 were lowusing prepaid customers. Since then, margin (EBITDA) and average revenue per user (ARPU) became the most important performance indicators (Credit Suisse First Boston, 2002; Dresdner Kleinwort Wasserstein, 2001). In the following, our analysis concentrates on market share as an indicator for the ability to grow in the past and on EBITDA margin as an indicator for current profitability.

Figure 1 and figure 2 show for a sample of 38 Western European mobile operators their market shares and their EBITDA margins at the end of the first quarter 2002 as a function of the length of the period since launch. There are two major conclusions that can be drawn from the analysis of the two figures. Firstly, there is a broad range among the different operators regarding the two performance indicators. Market share and EBITDA margin vary not only significantly between operators from different countries, but also within a country. In Finland, the market leader Sonera has a market share which is nearly twice as big as the market share of its competitor Radiolinja. Furthermore, the EBITDA margin of Sonera is 67% higher than the margin of Radiolinja. Similar differences can be detected within the other countries.

Secondly, there is a correlation between the time on the market and the amount of market share and EBITDA margin. This might be caused by first-mover-advantages (Lieberman & Montgomery, 1988; Kerin, Varadarajan & Peterson, 1992; Lieberman & Montgomery, 1998) like switching costs (e.g., subscriber contracts, lack of number portability when changing an operator), preemption of scarce assets (e.g., distribution channels, sites for antennas) or experience economies (e.g., lower costs per subscriber because of learning curve effects). The correlation is moderated by the variance within peer groups which started operations nearly at the same time. A very broad range can be detected within the late movers concerning EBITDA margin: While some late movers like O₂ (Germany) or Orange Denmark did not yet manage to write positive margins others like Optimus (Portugal) became EBITDA positive in a very short period of time. The most successful late mover in the Western European mobile communications market is the Greek third entrant Cosmote which has not only the highest market share and margin among its peers, but shows also a better performance than the majority of the entire market.

Because of its exceptionally success, we choose Cosmote as a case study to examine how this company managed to outperform its competitors in Greece and to break the rule that there is a first-mover-advantage in the mobile communications market. We contrast
the case of Cosmote to the case of the German third entrant E-Plus in order to analyze how the paradox of a very different performance in spite of homogeneous market characteristics can be solved. Before we start our analysis the next section will give an overview of Cosmote and E-Plus and will show that the companies’ characteristics as well as the market environments of Cosmote and E-Plus are similar, but their market performance differs significantly.

Company characteristics and market environments

Cosmote is the mobile subsidiary of the fixed network incumbent OTE (59% owned), one of the biggest companies in Greece. Other shareholders include the Norwegian operator Telenor (18%) and the local company WR Com (7%). The remaining 16% is free float since Cosmote’s shares started trading in Athens and London in October 2000. At the end of June 2002, Cosmote served 3.2 million subscribers, representing a market share of 38%. In 2001, Cosmote generated Euro 929 million operating revenues and an EBITDA of Euro 408 million (EBITDA margin: 44%). Revenues from mobile telecommunications services accounted for 96% of the total revenues, handset sales contributed with 4%.

The development of Cosmote is characterized by strong growth in terms of its subscriber base as well as its revenues. In about three years of operations, Cosmote has become the market leader in Greece in June 2001, with a subscriber market share of 37% at that time. The revenue grew by 166% year-over-year from 1998 to 2001. Cosmote started its operations in April 1998 – nearly five years after its competitors Vodafone (formerly Panafon) and Stet Hellas, which both are subsidiaries of large multinational cellular operators – focusing on the contract market where the company reached the dominant market position two years after its network launch. From the end of 1998 on, Cosmote concentrated also on the prepaid segment, so that the current (June 2002) customer mix of Cosmote is quite balanced with a share of 47% contract and 53% prepaid customers. This customer mix stands in contrast to Cosmote’s competitors which have a prepaid share of more than two-thirds, resulting in the fact that the average revenue per user (ARPU) of Cosmote (2001: Euro 30) is higher than the ARPU of its competitors (Vodafone, 2001: Euro 28; Stet Hellas, 2001: Euro 23).

The growth in terms of subscribers and revenues was accompanied by attaining a strong financial maturity in a very short period of time: Nine months after the launch of its network Cosmote was Net Income and EBITDA positive and the EBITDA margin in 2001 was the highest among all three competitors in Greece. Figure 3 and figure 4 show the development of Cosmote compared to Vodafone and Stet Hellas.

Cosmote’s success is not only impressive compared to its competitors in Greece but also compared to its Western European peers. Cosmote is the only third entrant in Western Europe that managed to become the number one in terms of market share although some of its peers entered the market much earlier than Cosmote (figure 5). Moreover, with an EBITDA margin of 44% (2001) the profitability of Cosmote is also much higher than the Western European average (2001: 38%).
Analyzing figure 5 Cosmote’s market share contrasts especially versus the market share of E-Plus as the German third entrant has not only the lowest market share among all of its peers, but was even one of the earliest third entrants: E-Plus launched its network about four years earlier than Cosmote. Besides the contrast in market performance, there are two other reasons why a comparison of Cosmote and E-Plus is of great interest. First of all, the market conditions were comparable at the time when Cosmote launched its network in Greece and at the time when E-Plus launched its network in Germany: The penetration was low (Germany 1994: about 3%; Greece April 1998: 11%) and both operators started in a phase of the market when there were two competitors on the market which were backed by big companies. The aforementioned Panafon was a subsidiary of Vodafone, and Stet Hellas’ major shareholder was Telecom Italia Mobile. In Germany, Mannesmann Mobilfunk (now Vodafone D2) and DeTeMobil (now T-Mobile Deutschland), which started operations in June resp. July 1992, were subsidiaries of the engineering company Mannesmann resp. of the fixed network incumbent Deutsche Telekom. A second reason that makes the case of Cosmote and E-Plus comparable is a technological one. Both companies acquired a license for a GSM-1800 network, which – in contrast to the GSM-900 networks of their competitors – had the following characteristics resulting from the higher frequency range where there is typically more bandwidth available than at the 900 MHz band: A higher capacity, allowing to serve more customers per cell, and a lower range of the signal which means that the size of the mobile cells is smaller. Because of these characteristics a GSM-1800 network is especially appropriate for high-density areas.

E-Plus was originally owned by the German utility Veba (now eon; 30%), the German engineering company Thyssen (30%), the US Regional Bell Operating
numbers. The break-even was reached in 1999—five years after network launch. While the low revenue figures are a logical consequence of the low market share, the profitability of E-Plus is also much worse than the profitability of the co-market leaders T-Mobile and Vodafone. Although there is an improvement from 2000 to 2001 resulting from decreased handset subsidies and a stronger focus on business customers, the EBITDA margin of E-Plus is still about half as big as the margins of T-Mobile and Vodafone (figure 7). The reasons for that are a lack of economies of scale—resulting from the low market share—and the prepaid oriented customer mix combined with a very low market share in the business segment (mid of 2001: 8.5%). E-Plus’ longyear focus on low-end customers led to an ARPU which is the lowest among all competitors (2001: E-Plus: Euro 21; Vodafone: Euro 25; T-Mobile Deutschland: Euro 24; O₂: Euro 26).

Apart from the bad performance in terms of market share, the activities of E-Plus resulted also in weak financial
To sum up: A comparison of the most successful third entrant Cosmote and its low performing counterpart E-Plus is of great interest. At a first glance there seems to be a paradox: Although many of the companies’ characteristics are similar and the market environments are also comparable their market performance differs significantly (figure 8). This raises our research questions: (1) How can this explained? (2) What made Cosmote so successful? (3) What are the lessons learned from these cases?

**Case analysis**

In this section, we will answer our research question by concentrating on the most important areas which contributed to Cosmote’s exceptional success: The customer focus together with the marketing mix, the GSM network and the influence of Cosmote’s shareholders. We will compare Cosmote’s strategic approaches and instruments with those of E-Plus.

When Cosmote started, in April 1998, the penetration in Greece was 11%. The first movers Vodafone and Stet Hellas considered mobile communications in Greece as a premium market and addressed only the needs of a limited part of the entire potential market. Cosmote realized the incumbents’ inertia and capitalized on its late mover advantage (Lieberman & Montgomery, 1988) by targeting the mass market just from the beginning. It started commercial operations with a tariff package that was completely different to those prevailing at that time. Apart from classic instruments of a penetration strategy like a significant lower level of airtime fees and a promotion campaign which offered introduction packages with free handsets (Hope, 1998), Cosmote’s tariffs had two unique characteristics.

Firstly, the tariff policy was very simple: There were only two tariff plans which incorporated per second billing, single fees for peak and off-peak calls, volume discounts and loyalty schemes. Cosmote’s clear, simple and transparent tariff proposition attracted potential customers that were confused by the many different and complicated tariff plans of the competitors which finally copied Cosmote’s tariff packages (information from the interview with Martigopoulos).

The second unique characteristic was that Cosmote started with contract services and offered no prepaid packages. The aim of this approach was to acquire high-end users – as the average minutes of use of contract customers are much higher than those of prepaid customers – and to achieve a continuously revenue stream for a long period of time, which was supported by the loyalty schemes. Thus, Cosmote’s goals were to gain a significant number of subscribers by transforming the market into a mass market and to become profitable in a short period of time by acquiring the contract users. By breaking the rules of the mar-

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**Figure 8:** The paradox of Cosmote and E-Plus – significant performance differences despite similar market environments and company characteristics

- **Similar market environments**
  - Low penetration at launch
  - Third entrants: Two competitors at launch
  - Weak (D) resp. no (GR) analog mobile market
  - About 4 years between own launch and launch of 4th entrant

- **Similar company characteristics**
  - Backed by big companies
  - GSM-1800 network
  - Focus on domestic market
  - Pure mobile player

- **Cosmote: High performer**
  - Highest market share in Greece within 3 years after launch
  - EBITDA and net income positive from 9th month of operations
  - Highest EBITDA margin and highest ARPU in Greece
  - The only 3rd entrant to have become 1st in Western Europe

- **E-Plus: Low Performer**
  - 2nd lowest market share in Germany
  - Break-even five years after launch
  - 2nd lowest EBITDA margin and lowest ARPU in Germany
  - Lowest market share of all 3rd entrants in Western Europe
Cosmote was able to gain — in addition to the 470 OTE outlets — 2,500 other outlets. By this, Cosmote established a big dealer network in a very short period of time and, so, Cosmote’s visions were developed from the goal to capture a 30% market share at the end of the century (Hope, 1997) via the aim ‘...to be Number One in Greece in subscribers, quality of service and profitability’ (Cosmote, 2000, p. 15) to the goal ‘...to reinforce our dominant position on all fronts and become one of the best five mobile operators in Europe’ (Cosmote, 2002a, p. 6).

With market evolution Cosmote also launched a prepaid service at the end of 1998 and it increased its efforts to gain business customers with a corporate sales force and tailored value added services.

The differentiation in tariffs was accompanied by the three further parts of the marketing mix, which also helped to support Cosmote’s mass market approach. Concerning product policy Cosmote’s focus is on value added services and its accessibility for all customers via any kind of mobile phone. The distribution concept is based on Cosmote’s “Master Dealer” network, which comprises of exclusive and non-exclusive domestic dealers, including OTE. With the help of very attractive commission and bonus schemes Cosmote was able to gain – in addition to the 470 OTE outlets – 2,500 other outlets. By this, Cosmote established a big dealer network in a very short period of time. In contrast to their competitors, Cosmote avoided to have many own shops. CEO Martigopoulos explains the reason behind that: ‘Concerning distribution the philosophy that prevails at Cosmote is: Use the best retail chains that exist in the market, capitalize on that, save your money, instead of building your own point of sales chain. If you are an operator you have your strengths in an operator’s business. The retail market is for other companies that know it better.’ Considering communications policy Cosmote capitalized especially on the brand awareness and reputation of its parent company.

To enable the mass market approach Cosmote needed a network with a wide coverage. Originally, Cosmote planned to start in 1997 but due to technical reasons and cultural problems in the first phase of cooperation with the second shareholder Telenor the launch was postponed (Littlewood, 1997). Even when Cosmote gained several hundred thousand potential subscribers via its pre-Christmas campaign in 1997, it postponed the start again as it could not deliver the promised services (Hope, 1998). But when Cosmote commenced commercial operations in spring 1998, it started with a population coverage of 60% (Macandrew, 1998) and one and a half year after network launch coverage reached 97% and had superior quality characteristics (Cosmote, 2002b). To best serve the customers needs Cosmote did not active marketing its services in the first months of operations as all capacities were needed to activate those customers who were attracted in the aforementioned pre-Christmas campaign (Macandrew, 1998). Nevertheless, Cosmote is the fastest growing mobile operator in Greece since its launch and combined this with an image of high quality. So, Cosmote took the right decision to start not before its operations were fully fledged and its network had sufficient coverage according to its strategic perspective emphasized by CEO Martigopoulos: ‘Greece is a very competitive market. It is a market that is for big players with enough resources, sustaining for the long run, because it is a marathon race, it’s not just a 100 m race.’

With its massive network rollout program Cosmote was again a rule-breaker and attacked the existing competitors (Foster, 1986) as it is common practice to build up a GSM-1800 network – which consists of smaller cells and therefore needs more base stations – by a gradual rollout which starts in urban areas and then moves to semi-urban and finally to rural areas. The rollout was supported by OTE as Cosmote initially used a lot of OTE sites to build its antennas and base stations. Meanwhile, most of the sites used by Cosmote are leased from third parties. According to a maintenance agreement Cosmote pays OTE fixed sums for acting as a maintenance contractor for Cosmote’s cell sites. The technical know-how for the roll-out and running of the network was mainly delivered by the second shareholder Telenor. OTE’s fixed network know-how was important for the roll-out of a telecommunications network in general and for the fixed side of the interfaces between the fixed and the mobile network. Another asset of Cosmote was that there were no complicated negotiations about interconnection and the use of leased lines, because OTE owned the fixed network infrastructure. However, the prices Cosmote paid OTE for interconnection as well as for leased lines were the same as applied to other companies not related to OTE – although Cosmote was entitled to pay lower interconnection fees as a new company. In addition to the broad coverage and high quality characteristics, the network proved also its robustness as it was the only network that remained intact after the earthquake in Athens in September 1999.

Besides the above mentioned support by OTE, Cosmote capitalized also on OTE’s commitment to Cosmote. OTE stayed committed to its mobile subsidiary when there were the aforementioned problems in setting up the network and the troubles with Telenor in 1997. The latter was solved by OTE e.g. by changing the CEO of Cosmote (Mobile Communications, 1998). In a later stage, the Norwegian members of the executive committee were replaced by Greeks. This shows that OTE was com-
mitted to the strategy developed for Cosmote, and this commitment is clearly an important source for competitive advantage (Ghemawat, 1991).

The aim of E-Plus at the time of launch (May 1994) was even more ambitious than that of Cosmote: E-Plus wanted to reach 35% market share at the end of the century (Mobilcom, 1998). Basically, this was not out of reach as the market penetration was very low in Germany in spring 1994: 3% penetration meant that there was a lot of room for growth, and Germany with its 82 million inhabitants seemed to be big enough for at least three mobile operators. Mobile communications was far away from being a commodity and either was the business market exhausted as there were no special offers for high-using corporate customers nor was the consumer market aggressively targeted with a low price offer. And the future looked bright: Although the penetration forecasts in 1994 were lower as well as the actual market evolution during the mid-90s was slower than both were during the end of the decade, the market growth in the first years since 1994 was strong enough to capitalize from gaining new customers. Thus, the first-mover advantage of switching costs (Lieberman & Montgomery, 1988; Kerin, Varadaran & Peterson, 1992) for existing customers of D1 and D2 who wanted to change to E-Plus was very limited by their small number compared to the new market potential.

Furthermore, E-Plus could have capitalized on the first-mover disadvantage of free rider effects (Lieberman & Montgomery, 1988) as with Mannesmann Mobilfunk/D2 there was a successful model for a private company which had no former experience in telecommunications, but performed very well compared to the subsidiary of the fixed network incumbent.

Finally, the time since the launch of the first movers was quite short and, thus, the first-mover advantages of D1 and D2 should have been lower than those of Panafon and Stet Hellas in Greece as empirical studies showed that ‘First-mover advantages...are enhanced by longer lead times before competitive entry’ (Lieberman & Montgomery, 1998, p. 1121). To sum up: From the market side E-Plus had the best prerequisites to grow and to catch up with D1 and D2. Even compared to Cosmote the prerequisites were better as the penetration at the launch of E-Plus was lower and its commercial start was earlier.

E-Plus started with approaching private customers and small enterprises. As its network rollout was much slower than that of Cosmote – E-Plus started in Berlin and extended its network during 1994 with further big cities in Germany; the development of the population coverage was: 30% (end of 1994), 75% (end of 1995), 90% (end of 1996), 98% (end of 1997) – E-Plus started as a regional operator and it had the strong disadvantage that in its first years of operation it was no alternative for potential customers that needed a broad coverage. Moreover, the abroad use of E-Plus mobile phones – which could only be used in 1800 MHz but not in 900 MHz-networks – was very limited in the starting phase because there were only a few GSM-1800 networks outside Germany and the first dualband handset was introduced in Germany not before 1997. Finally, there were serious problems to activate and bill the customers (Booz, Allen & Hamilton, 1995). As it needs years to get rid of a bad image concerning the network to start with an insufficient coverage and to follow a slow network rollout was a crucial mistake in the strategy of E-Plus.

E-Plus tried to compensate the network disadvantages with its tariff scheme: It offered slightly lower charges than its competitors and introduced tariff innovations like the first offer of two different tariffs for business and residential customers and lower prices for calls within the E-Plus network (Booz, Allen & Hamilton, 1995). But in contrary to Cosmote, E-Plus’ tariff scheme had only marginal positive and to a certain extent even negative effects (Schubert, 1995). The difference to the charges of D1 and D2 was too small to stimulate the demand: There were only 30,000 customers at the end of 1994. The small tariff reduction had the only effect that E-Plus was perceived as a discounter offering a product with insufficient quality. The tariff splitting was useless as the coverage was too low and the roaming possibilities too bad for potential business customers, while the tariff reduction was too small to target especially the consumers. Furthermore, D1 and D2 copied the tariff splitting in 1995: For them it made sense as they had sufficient coverage for business customers and the tariff splitting was also an opportunity to decrease the prices and stimulate the demand in the consumer sector. The lower prices for calls within the E-Plus network were completely negative for E-Plus: Such prices strengthened network effects within a network and, thus, they are useful if a network has already a significant customer base: ‘Good idea’ thought the competitors again and copied the concept from E-Plus only a few months later, whereas E-Plus with its small customer base did not draw an advantage of it (Schubert, 1995).

In 1997, E-Plus introduced the first prepaid offer in Germany which was a certain success as the market share grew slightly. Unfortunately, this intensified the image of E-Plus as being a company which is focused on low price offers. To change this image and to gain more of the profitable business customers E-Plus replaced its logo in 1998 by a more serious one (Telecom Handel, 1998) and established in 1999 a new business unit dedicated to corporate customers (Horizont Newsline, 1999). The efforts included tariff innovations for business customers like an automation to use the lowest tariff and a change in the marketing campaign with the testimonial Franz Beckenbauer who promoted then the business products of E-Plus instead of the ‘Free&Easy’ prepaid card.
But even today, the company has a certain image of focusing on low prices, which is admitted by the CEO Uwe Bergheim (Stippel & Seiwert, 2001), and the customer base is still prepaid oriented with a share of 58% in favor of prepaid at the end of 2001 (KPN, 2002).

Besides the crucial mistake of E-Plus to start a network without sufficient coverage, there are two further disadvantages compared to Cosmote: At least in the first six years of operations there was a lack of commitment of the shareholders, which did not have the same resources as the main shareholder of Cosmote, OTE. E-Plus’ biggest shareholders Thyssen and Veba – and later RWE instead of Thyssen – had strong ambitions in the telecommunications sector, but these lasted only for very few years. When they realized how difficult it is to compete with the former incumbent Deutsche Telekom or with the market leaders in mobile communications D1 and D2, they sold their telecommunications assets. The lack of commitment to E-Plus might be caused by the fact that the shareholders – unlike OTE – did not have much experience in the telecommunications business and so they underestimated the necessary investments and the length of the starting phase. Apart from the lack of commitment E-Plus, compared to Cosmote, lacked also regarding the resources from its shareholding companies. Cosmote capitalized on the strong brand awareness of OTE and got substantial assets from its main shareholder: Sites for antennas and base stations, maintenance for the cell sites, agreements about interconnection and leased lines, the core of the Master Dealer network. Nevertheless, it is important to stress that Cosmote had to pay the same fees like its competitors and used also third party agreements as well as own assets. Thus, the real performance of Cosmote is that the company managed to leverage all these assets whereas E-Plus did not even have a chance to access such assets as easily as Cosmote could. Furthermore, E-Plus had to fight regulatory battles regarding the conditions of interconnection and leased line agreements with the dominant fixed network incumbent Deutsche Telekom. As T-Mobile, its mobile communications subsidiary, was a competitor of E-Plus Deutsche Telekom was not very interested in offering E-Plus low fees. In addition to that, the shareholders of E-Plus did not have distribution outlets which could have been used and they did not have knowledge about the German fixed network. So, although both companies had minor shareholders with mobile communications know-how (Telenor resp. Vodafone) the resources clearly differentiate Cosmote from E-Plus.

What are the major lessons that can be learned from these cases?

1. It is possible to be successful as a late entrant in the mobile telecommunications market. If the penetration at launch is not too high, it is even possible to become market leader and outperform the competitors.

2. The network is the crucial part of an operator. The image depends strongly on the coverage at launch and in the following phase.

3. Quality of service, which includes especially a wide coverage, is more important than time to market: If it is not possible to launch a network with a wide coverage and to serve the customers’ needs, it is better to postpone the network launch.

4. Slightly lower prices cannot compensate for a lack of coverage.

5. Because of the persistence of the image a change of the customer focus in later periods is very difficult.

6. Because of the rather homogeneous products tariffs are a strong instrument to compete: The demand can be stimulated by low, simple and transparent tariffs. Late movers can avoid the mistakes of the first movers by introducing innovative tariff schemes.

7. The effects of tariffs have only a limited duration because it is easy for the competitors to copy them. To gain sustainable advantage tariffs must contain loyalty schemes and must be combined with good product quality including especially a wide coverage.

8. The commitment of the shareholders in the starting phase is very important as this phase is crucial (image, customer retention) for the later success, the investments (network) are higher than in other phases and there is a big uncertainty of market evolution.

9. The access to comprehensive resources generates a competitive advantage, because to run the business of a mobile network operator it is not enough to have strong financial assets. Technical know-how, the necessary sites for the antennas and a broad distribution network are required as well.

10. Being a subsidiary of a fixed network incumbent is a strong advantage, because access to resources is much easier. But: Companies have to leverage the resources of the shareholding company. This can be realized via a customer-oriented strategy including a high quality of service, simple and transparent tariffs and a wide distribution network.

What do all these insights mean from a theoretical point of view? First of all, we think that our case study clearly provides evidence for the fact that market pioneers do not have an a priori advantage compared with later comers, as has been suggested by Lieberman and Montgomery (1988, 1998), which is a more time-oriented perspective. In the past few years, we have also witnessed a number of cases where the market incumbents outperformed the original pioneers. The browser market is a good example for this, as Microsoft attacked Netscape and was at the end the clear winner of the so-called ‘browser war’ (Cusumano & Yoffie, 1998). In a similar vein, Intel’s Andrew Grove suggested in 1999 that five years later there will be
no pure ‘internet companies’ anymore since the incumbents would all have changed to a type of company which incorporates e-business activities (Manager Magazin, 1999). These examples refer to a more size-oriented perspective of the market-entry issue. Former market leaders often try to use their market power in order to push new entrants out of the market. However, in the case of the GSM-market this market powerful logic does not apply, because all companies in our cases had strong corporate parents, so that it was not a question of big vs. small, but the competition took place between companies of similar size.

In order to explain the performance differences between Cosmote and E-Plus, it has been pointed out that the commitment of the parent companies to the new business was important. Caves (1984) and Shapiro (1989) both have highlighted the role of commitment as the essence of strategy. Ghemawat (1991) has identified four basic ingredients of commitment: lock-in, lock-out, lags and inertia. It is obvious that establishing a broad infrastructure and marketing organization requires a major commitment of resources (lock-in effect) which gives good reason to stay in the business for a long time (lag effect) and where a half-hearted investment strategy can cause an exclusion from the business forever (lock-out effect).

Cosmote seems to have understood these ingredients much better than E-Plus, as the above case study showed. Moreover, the inertia argument – referring also to a stable and durable setting within the company – applies since Cosmote has been very successful in establishing a corporate culture supporting the roll-out of the company’s strategy. Interestingly, the commitment argument has also been highlighted in the entrepreneurship literature. Nesheim (1997) considers the ability to get commitment from the founders of a start-up company and from other key people as a major task for a CEO of that company. In our cases, we do not have start-up companies, but subsidiaries of powerful corporate parents. Nevertheless, the decision to enter the GSM market was clearly an entrepreneurial endeavour in which the commitment of the parent companies and their shareholders were very important – to the advantage of Cosmote and to the disadvantage of E-Plus.

Besides the commitment argument, the resource differences played also a very crucial role in this context. Although Cosmote and E-Plus have both been third entrants in the GSM market, the access to telecommunication specific resources (e.g. antenna sites, distribution network) and know-how was very different as Cosmote was a subsidiary of the Greek fixed network incumbent OTE. This conclusion is consistent with the argumentation of the ‘resource-based view of strategy’ (e.g. Barney 1991; Prahalad & Hamel, 1991) which argues that companies that have superior resources can generate competitive advantage and superior financial performance (Collis, 1991) if they are able to leverage the existing resources as in this case Cosmote was able to.

Stalk and Hout (1990) have introduced the notion of ‘time-based competition’ to the strategy literature, and this notion has also become a key word in the new economy in which being fast seemed to be one of the most important success factors. Shapiro and Varian (1999), for example, have suggested that it might be better for companies to market a product early and to include the customer’s feedback in the further development of the product as soon as possible than to wait until the product is ‘ready’ from the engineers’ point of view. The case studies presented in this paper show that this must not be the case: Cosmote started its business not before it has finished its homework, whereas E-Plus relied on a more evolutionary strategy.

This last point is closely related to the debate of the traditional proponents of strategy making and the ‘learning school’ of strategic management. In the tradition of Lindblom (1959), Quinn (1980) and others, Mintzberg (1990) suggests that an incremental ‘trial-and-error’ approach is not only more realistic but also more successful than the ‘rational’ approach of the planning and/ or the positioning school. This logic should also be applicable to entrepreneurial firms since they are in special need of learning experiences. However, our case studies show that depending on the industry the rational, ‘big-leap’ approach can make sense. Hence, the analysis of our case studies suggests a more balanced view which should be relevant for the strategic management as well as for the entrepreneurship literature.

On the one hand, our brief theoretical discussion reveals that some of the theoretical concepts are able to support the observations we made in the cases. On the other hand, however, our case analysis has shown that some of the observations contradict the general recommendations found in the literature. All in all, this is a clear sign that there is need for further research.

**Summary and outlook**

After an analysis of the Western European GSM-market which showed that there is a broad variance in performance in spite of a homogeneous market we examined the cases of the third entrants Cosmote and E-Plus to understand how the performance differences can be explained.

The exceptionally good performance of Cosmote results from a combination of rule-breaking approaches (innovative tariff scheme; transforming the market into a mass market; starting with a contract only offer), which used the late mover advantage against the inertia of the incumbents, an excellent executing of the basics (massive rollout of a broad
distribution network and the GSM network as a prerequisite for the mass market approach) and the commitment as well as the resources of its shareholder OTE. Cosmote leveraged these resources and the strong brand awareness of OTE by performing its customer-oriented strategy.

The low performer E-Plus made a crucial mistake with the slow network rollout and was hit by the lack of commitment and resources of its shareholders. Although E-Plus realized several tariff innovations the company was damaged by the insufficient coverage within the first years and could not overcome its image as a low price focused operator.

Future research should focus on examining further cases to detect patterns of attacker’s advantages and disadvantages in the GSM market. Moreover, future research needs to be extended to first movers as these companies also show a broad variance in performance. And, obviously, we need more research which relates this industry-specific results to other industries in order to see how generalizable they are.

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