

VIRGIN UNWIRED

This case was prepared by Professors Leif Sjöblom and Xavier Gilbert as a basis for class discussion rather than to illustrate either effective or ineffective handling of a business situation.

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Virgin's target markets are often those where the customer has been consistently ripped-off or under-served, where confusion reigns and the competition is complacent. Entering such an industry, Virgin is not afraid to take on big entrenched interests.¹

In April 1999, Richard Branson was contemplating his next move--to take the Virgin brand into the UK mobile communications market.

The mobile market--highly profitable and rapidly growing--was extremely appealing to Virgin. Yet, consumer surveys indicated that almost every second customer was dissatisfied with the service or value-for-money they received. The existing four mobile operators did not have a clear position in the market, and many customers did not identify with their service providers.

Virgin was one of the UK's strongest consumer brands, associated with excellent service and standing for the consumer. Many considered Richard Branson to be the Robin Hood of the industry. The Virgin concept had proved successful in a number of "life style" businesses, from music and airlines to soft drinks and radio stations. Nevertheless, there was a growing concern that, one day, continual brand extension into increasingly farfetched businesses would backfire. For example, customers criticized Virgin's railway venture for not living up to the expectations of the Virgin brand.

In spite of the potential risks and expected harsh competition from the incumbent mobile operators, the venture looked very appealing. But success would depend on Virgin's ability to bring something new and innovative to the market, on its ability to secure considerable external financing and to manage the business in partnership with a technology provider.

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¹ From the company document "The Virgin Group of Companies."

Mobile Telephony on the Rise

The UK mobile market was established in 1985. (*For a brief history refer to Exhibit 1.*) By the early 1990s, it had become Europe's leading market. Ten years later, despite rapid growth and high profits, it had lost its leading position. Italy and Germany had overtaken the UK in size, and the Nordic markets had penetration rates double that of the UK.

The UK mobile market as a whole had a somewhat negative image. The customers perceived the network coverage and call quality as mediocre, and prices were considered high and non-transparent. With all four networks approaching 100% coverage, it was increasingly difficult for them to differentiate their service offerings. And many consumers, particularly women, identified more with the handset providers--Nokia, Ericsson and Motorola--than with the network operators. The operators were increasingly concerned that the consumers would select the handset on features and image, and the service on price.

The UK market had a number of special features. For example, the operators subsidized the handsets to make the initial purchase more affordable for new subscribers. In order to recover the subsidy, the call tariff was high. Customers were attracted by the perceived low price, but got a shock when they received the first monthly bill. Many stopped using the service. Second, customers were not very loyal. Typical churn rates (share of customers lost in a year) were 20% to 25% and increasing.

In January 1999, so-called "number portability" had been introduced. This was likely to further accelerate the churn, since a customer could retain his telephone number if he changed service provider. Ofel research indicated that 92% of unsatisfied customers would switch service providers if they could keep their phone number; only 42% would switch without number portability. Some operators were already providing cash incentives up to £100 for customers who switched.

Another feature of the UK market was the massive consumer acceptance of prepaid services. The prepaid service had a very low entry cost (£69 to £99), and it required neither contract nor credit check. But the calling tariff was high. During the Christmas season November to December 1998, the industry added more than two million new subscribers. Roughly 75% of them chose the prepaid subscription.

Competition in the UK Mobile Market

Vodafone and Airtouch: The Global Market Leader

In 1999, Vodafone was the undisputed industry leader both in the UK and globally (*refer to Exhibit 2 and 3 for comparative data on the operators*). The brand was well known throughout the UK. Many considered Vodafone a reliable and safe choice; the company had a reputation for being excellent technically and was particularly strong in the corporate, high-end business segment. Vodafone had the most extensive distribution network, with 240 company-owned specialist

Vodastores serving private customers. Independent dealers and retailers served small and medium businesses, and a direct sales force served corporate accounts. In a recent move to further expand its distribution, Vodafone had teamed up with Boots the Chemist,¹ a large retail drug store, to distribute its prepaid mobile telephony service.

Vodafone was also a well-known international brand. The company operated networks under its own brand in several countries, and was a partner in several other operations. The acquisition of Airtouch in 1998 had made it the only truly global mobile operator.

Vodafone's challenge was to try to protect its high market share while simultaneously protecting its revenues-per-subscriber. So far the company had been very successful in doing this, but the pressure from competition was mounting.

BT Cellnet: Stuck in the Middle?

Cellnet was considered a safe choice for the "man on the street" who wanted "British Telecom reliability." However, Cellnet's performance was very sporadic. In 1996, it had been the first operator to bundle service with Barclaycard, a major UK credit card. This brought in an estimated additional 150,000 new customers who were much more loyal than the existing ones. Yet, Cellnet appeared to have completely missed the boat on prepaid services. It was the last operator to introduce them, and in the critical 1998 Christmas season it had severely underestimated the demand. Because of handset shortages, it lost 100,000 to 200,000 potential customers.

Cellnet had problems differentiating its offering. Increasing competition had taken a toll on Cellnet's market share; it had the highest churn rates in the industry. In the spring of 1999, Cellnet was renamed BT Cellnet in an attempt to exploit the BT brand. It was widely expected that BT's next move would be to buy out the minority shareholder.

One-2-One: Targeting the Mass Market

One-2-One had launched its network with inadequate capacity and coverage, and its reputation was still tainted by the "London phone only" image. Nevertheless, in early 1999, One-2-One was coming strongly from behind. With its low prices and up to 95% national network coverage, it was finally becoming a real alternative for most customers. One-2-One appealed to the "youthful" segment, but it was still considered, by many, to be an "every man" phone with no unique market position (except for a perceived low price). There were rumors that the parents of One-2-One were looking for a buyer of the company.

Orange: Can the Premium Strategy be Sustained?

Orange was the first company to introduce many new features, such as caller ID and per-second billing. Its pricing scheme was simpler and more transparent than

the other operators'. In addition, Orange offered to immediately match any published tariff of its competitors. Combined with very clever marketing, these innovations positioned the company as "the fair guys," and perhaps the most innovative of the four operators.

Orange targeted "quality high value customers." Attractive packaging and a very strong brand image--an orange square--rested at the center of its marketing and positioning strategy. Subscribers "joined Orange" with a feeling they were members of an exclusive club. They received a membership magazine. Image advertising focusing on people and people's needs (it rarely even mentioned a telephone) supported the brand. Orange had been particularly successful in the small, private "Joe the plumber" business segment.

Orange had been trying, above all, to create customer loyalty and to protect its high revenues-per-subscriber. High debt levels (a constraint on the company) drove this strategy. Orange had the highest customer satisfaction in the industry (refer to **Exhibit 3**). Its churn rate was 20.5%², lower than the industry average of 25% to 30%. One key priority for Orange was to triple the number of its own retail stores from 20 to 60.

The Regulator

Oftel, the regulator, played a relatively passive role in the industry. With falling prices and new entrants growing their market share, no immediate regulatory initiatives were expected.

The most imminent regulatory uncertainty was whether networks would be forced to resell air time to independent service providers or to each other. This would definitely be a key issue when new licenses were awarded. Current regulation forced operators with "significant market power," (a market share of 25%) to provide wholesale access to their network. However, independent service providers had problems differentiating their services, and by spring 1999 they had either disappeared or been acquired by the operators.

The Economics of the Operator Business

A mobile network is a large fixed investment, with economics similar to airline or hotel operations. With increasing competition, the operator business was no longer a "license to print money." (Refer to **Exhibit 5** for comparative financial performance.) There was a clear opportunity to segment the market and optimize the profitability by using sophisticated yield management tools. Yet, many operators were still thinking of the business in terms of two segments--the price sensitive "private users" and the high end "business" market.

² 15.2% in 1997 and 14% in 1996. The prepaid churn rate was 4.4%, resulting in an overall 1998 churn rate of 18.1%. In comparison, Vodafone's 1997 analog churn was 47.4% and GSM churn 20.3%.

Revenues are highly dependent on pricing and the mix of customers an operator attracts. A low handset price and a low monthly fee attract more subscribers, but not necessarily the heavy users. Lowering call tariffs increases the usage (more minutes), and in general also the revenues (price-per-minute x minutes). In order to maximize the yield, peak-time calls--presumably made by business customers who were less price sensitive--were priced considerably higher than off-peak calls. (Typical peak hours are 8.00-10.00, 13.00-14.00, and 17.00-19.00.) In order for operators to reach a higher penetration, their prices must fall far enough to make the service affordable to the mass market. However, this generally means that revenues-per-customer would also fall. (*Refer to **Exhibit 4** for historical US benchmarks on this phenomenon.*)

In addition to call revenues, operators were looking into data communications and **value added services**. In many European markets, services such as personalized ring tones, short message services, wake-up calls or theater ticket bookings were highly profitable. For some reason, this was not yet the case in the UK. According to Vodafone, only the "educated segment" was using new services such as "short message," and only if they were essentially free. The capability and user-friendliness of the user interface--the handset--limited the introduction of new services.

The investment needed to enter the industry and operate a network was estimated at two billion pounds or more. The most important cost elements were:

License cost. The UK government planned to auction up to five, new third-generation UMTS (Universal Mobile Telephony System) licenses in 1999. The UMTS system was technically capable of handling broadband multi-media applications and high speed data transmission. The technology was considered too expensive to justify plain voice service only.

In the past, licenses had been awarded at very reasonable costs. However, the financial performance of the mobile operators had made the industry very attractive, and future licenses were expected to cost up to five hundred million pounds each. The design of the auction clearly indicated the government's intention to extract as a high a license price as possible (*refer to **Exhibit 6** for details on the auction*).

Network infrastructure and operating costs. The cost of building a new UMTS network that would cover the UK was estimated to be 1.5 to 2 billion pounds. The network roll-out involved network design, site acquisition for antennas, commissioning, and installation. Existing operators would have a significant cost and time to market advantage, since they could utilize some of their existing sites. The total cost would also depend on the geographical coverage (which consumers expected to be close to 100% of the UK) and on the capacity (i.e., the ability to make a call when needed).

Marketing and distribution costs. The costs of attracting new customers were significant. For example, Orange spent £215 on each new customer in 1998, down from £246 in 1997 and £278 in 1996. A significant part of this cost was the

subsidy of the handset.³

Virgin Unwired

Over the years, a number of very diverse “content” businesses had been incorporated under the Virgin umbrella. As an example of the wide offering: the Virgin web page featured a “live chat room” where Virgin Cola soft drink sippers could exchange the latest gossip while they listened to Virgin Radio broadcast live on the Internet. The Internet service was obviously provided by Virgin Net. (Refer to **Exhibit 7** for additional information on Virgin’s product portfolio.)

Despite the opportunistic appearance of Virgin’s business portfolio, brand extensions were carefully analyzed before the critical decision was made. Several new ventures had proven extremely successful. For example, when Virgin Cola was introduced, it captured the number two position in the UK overnight.

The acid test for entering a new market consisted of four questions (*refer to Exhibit 8 for additional details*):

1. Is the market attractive?
2. Does the opportunity help to build the Virgin brand?
3. Is there a clear opportunity for Virgin to add value?
4. Is there an appropriate trade-off between risk and reward?

In addition, Virgin wanted to maintain control over the brand name while ensuring outside financing. As a privately held company, Virgin had no access to the stock market and only limited access to bank financing. It was inconceivable that Virgin could raise the £2 billion needed to enter the mobile market without any partnering agreements.

Market Research

Market research conducted by Virgin confirmed the sentiment of the industry. The customers were becoming increasingly sophisticated, and many of them had already experienced the service. Even users who were fairly satisfied with the overall service found serious shortcomings in some elements of the service offering.

The most important source of frustration was pricing, with call quality coming second. Although customers welcomed lower prices, the recent price drops had exposed the previous “overcharging” by the operators. The overall price level (and price-per-minute in particular) was still considered too high. The pricing

³ The decrease in cost was primarily caused by lower handset prices, not improved efficiency. The figures exclude prepaid customers at an acquisition costs of £35.

structure lacked transparency, and many “hidden costs” had led to a lack of trust in the existing players. “Too much small print” and “they give a bit here, but take a bit there” were some of the comments from disappointed customers. In addition, customers feared that “better deals would be available” once they had signed up, and they doubted the objectivity and the knowledge of the sales people.

The reason for buying a mobile phone varied by segment. The emergency/safety factor was particularly high among women and parents of teenage children. The ability to be contacted all the time ranked high among couples and small businesses.

The ideal customer proposition was one with:

- Good value for money, manifested by cheap calls, per-second billing and no line rental. Many users were prepared to pay the full price of a handset to avoid being locked in by long-term contracts.
- A clear and simple cost structure, with no hidden charges.
- Flexibility in making the initial purchase and in upgrading the handset or changing the tariff.
- Quality--both network call quality and customer service.

Consumers felt that the Virgin brand would be an attractive choice in the market, but that Virgin lacked the technical expertise necessary to be a really credible alternative. A partner with the relevant technical experience was acceptable to the consumers, but such a partner would introduce some obvious risks to Virgin.

Another concern was the difficulty of differentiating the offering in the long term. If Virgin introduced a new tariff or a successful service, the incumbents could easily copy it. One possibility was a group loyalty scheme around the Virgin product portfolio. However, many doubted that such benefits would be significant enough to attract a large number of customers.

New Entrants

In addition to the existing operators, a number of potential new entrants were expected. The traditional European operators such as Deutsche Telekom and France Telecom had the experience, technical capabilities and financial resources to enter the market. Less traditional players like Tesco, a major UK retailer, had also expressed interest.

The Next Move

The window of opportunity was closing. For each month of delay, about 600,000 potential customers were lost to the incumbents. Branson knew that he needed to put together a unique concept, together with a suitable partner, in order to build a position in the market. And time was running out.

Exhibit 1 History of the UK Mobile Market

In 1982, the UK set the pace for the coming deregulation and restructuring of the European telecommunications market. In spite of this, in 1998, British Telecom (BT) dominated the market, providing 87% of all residential lines. However, increased competition and price regulation were putting pressure on BT's national and international revenues. After many years of struggle, the cable TV companies were finally closing in, growing by 70,000 customers each month. Still, the biggest change was the trend toward mobile telephony: mobile revenues counted for about 20% of the total UK telecommunication market in 1997, up from a mere 8% in 1992. Surveys indicated that up 50% of the population would consider replacing their fixed phone line by a mobile phone if the calling tariffs were similar.

The mobile market was created in 1985 when Vodafone (Racal Communications) and Cellnet (60% owned by BT) launched analog TACS services. Between 1992 and 1994, both companies launched digital GSM services; in 1998, their networks covered more than 95% of the UK.

By 1993, because of capacity limitations in the Cellnet network, Vodafone had taken the lead with 56% of the market. The company had also established its brand as a household name--people commonly referred to "getting a Vodafone" instead of "getting a mobile phone."

Customers perceived both Vodafone and Cellnet as very successful, but complacent. According to surveys, every second customer considered the level of service level below their expectations. Hence, the 1993/1994 launch of competing PCN services by One-2-One (Cable & Wireless) and Orange (Hutchison Communications) rejuvenated the market. Although both newcomers grew faster than the incumbent operators, they above all accelerated the growth rate of the market.

One-2-One made many mistakes when it entered the market. In 1993, the company thought that time-to-market was critical, and launched the service with adequate coverage only within the London area. This created the perception that One-2-One was the "London phone" only.

One-2-One's pricing strategy differed from the other players. For example, it offered free off-peak local calls to residential users. In a 1994 marketing drive, it offered unlimited free international Christmas calls to new subscribers. The offer was too successful. Thirty thousand new customers took up the offer, but network congestion prevented many unhappy ones from benefiting.

Orange argued that the customer's first impression is it's last impression, and followed a different strategy. It launched its service one year after One-2-One's, in 1994, but with excellent coverage. Its market share soon surpassed One-2-One's.

In 1998, the UK market started to show signs typical of a mature and competitive industry. Yet, many industry experts considered that the real potential of the market was still untapped, and that the next few years would see explosive growth. They predicted, for example, that up to 75% of all voice traffic would be mobile by the year 2007. But this volume growth would come at a cost--the average revenue (and profit) per subscriber would be significantly lower in a mass consumer market.

Exhibit 2
Market Size and Market Share Estimates

Rank	Country	Subscribers 1.4.99	Subscribers 1.4.98	Subscribers 1.1.91	Penetration 1.4.99	Rank
1	Italy	22.3 m	13.3 m	0.27 m	39.0 %	4
2	Germany	16.3 m	9.4 m	0.27 m	18.8 %	
3	UK	14.9 m	9.0 m	1.14 m	25.5 %	5
4	France	12.5 m	6.6 m	0.28 m	21.4 %	
6	Sweden	4.8 m	3.5 m	0.48 m	54.0 %	2
8	Finland	3.0 m	2.3 m	0.23 m	58.5 %	1
10	Norway	2.3 m	1.8 m	0.20 m	51.2 %	3
	Europe	103.8 m	61.5 m	3.45 m	26.8 %	

Net New Subscribers	1996	1997	1998	Jan-Mar 1999	Share 1999	Market Share 1.4.1999
Cellnet	476,000	459,000	1,054,000	479,000	25.5%	30.4 %
Vodafone	385,500	310,000	1,614,000	700,000	37.3%	37.5 %
One-2-One	148,400	469,000	910,000	329,000	17.5%	15.1 %
Orange	405,500	415,000	965,000	370,000	19.7%	17.0 %
Total	1,415,400	1,653,000	4,657,000	1,878,000	100%	100 %

Operator	Launch	Subscribers 1.1.99	Subscribers 1.1.98	Annual Growth	% Prepaid
Cellnet TACS-900*	1/85	359,000	770,000	-53 %	
Cellnet GSM-900	1/94	4,163,000	2,308,000	+80 %	
Vodafone TACS-900*	1/85	860,000	868,000	-1 %	
Vodafone GSM-900	7/92	4,714,000	2,562,000	+84 %	
One-2-One GSM-1800	9/93	2,250,000	1,198,000	+88 %	
Orange GSM-1800	4/94	2,532,000	1,318,000	+92 %	22.5 %

Source: X25 Partnership; *Mobile Communications* pp. 261-2 (April 1999) and 250 (Oct. 1998);
IMD analysis

*TACS-900 is an analog technology that is being phased out. Some low cost prepaid services are carried on this network. GSM is a digital technology suitable for voice and low speed data applications. UMTS (third generation) technology that supports multimedia applications and high speed data will be available in 2001.

Exhibit 3 Comparison of UK Operators

Competitive Positioning	Vodafone	Cellnet	Orange	One-2-One
Financial strength	3	3	1	2
Cheap prices	2	2	1	3
Quality of network	3	2	3	1
Efficiency of distribution	3	3	2	2
Marketing effort	2	2	3	2
Billing systems	2	1	2	2
Total Score	15	13	12	12

Source: ABN AMRO; Mobile Communications 241 (May 1998)

Note: 3 = highest, 1 = lowest score

Satisfaction	Customer Satisfaction Index 1999	Customer Satisfaction Index 1998	Top Five Customer Satisfaction Criteria	Weight
Orange	116	121	Image/Capabilities	25%
One-2-One	94	101	Call quality	21%
Average	100	100	Price/Value	21%
Cellnet	99	96	Communication	13%
Vodafone	96	93	Customer service	13%

Source: Press release, J.D. Power and Associates, 28.4.1998 and 28.4.1999

	Annual Revenues (£)/ subscriber					Quarterly minutes/ subscriber**			
	1998	1997	1996	1995	Prepaid '98	1998	1997	1996	Prepaid '98
Vodafone		427	427	481		250			
Cellnet			343	391		220			
One-2-One						800			
Orange*	483	489	442	444	231	275			

Source: Ofitel, company web pages, company annual reports, IMD analysis

Note: Figures for different operators are not directly comparable. Vodafone's 1997/96 figure of £427 consists of digital customers (£558) and analog customers (£353). Vodafone's figures are net of service provider discounts. Adding back service provider discounts gives an average of £564. Orange does not use service providers.

* Orange figures are for the calendar year. All other figures are for the fiscal year March 1998-March 1997.

**Not comparable since One-2-One offers free local calls for some tariffs.

Exhibit 3 (continued)

Independent Survey of Network Quality

Network quality (UK city trials)*	Successful calls	Dropped calls	Blocked calls	No service calls
Vodafone	97 %	2 %	0 %	1 %
Cellnet	94 %	4 %	0 %	1 %
One-2-One	91 %	7 %	0 %	3 %
Orange	97 %	2 %	0 %	1 %
Network quality (rail routes)**	Successful calls	Dropped calls	Blocked calls	No service calls
Vodafone	73 %	15 %	0 %	12 %
Cellnet	79 %	15 %	0 %	6 %
One-2-One	78 %	18 %	0 %	4 %
Orange	89 %	8 %	0 %	3 %

* Calls from a car driven in London, Greater London, Edinburgh, and Cardiff.

** Calls from a train on four major routes.

Source: Ofitel web page

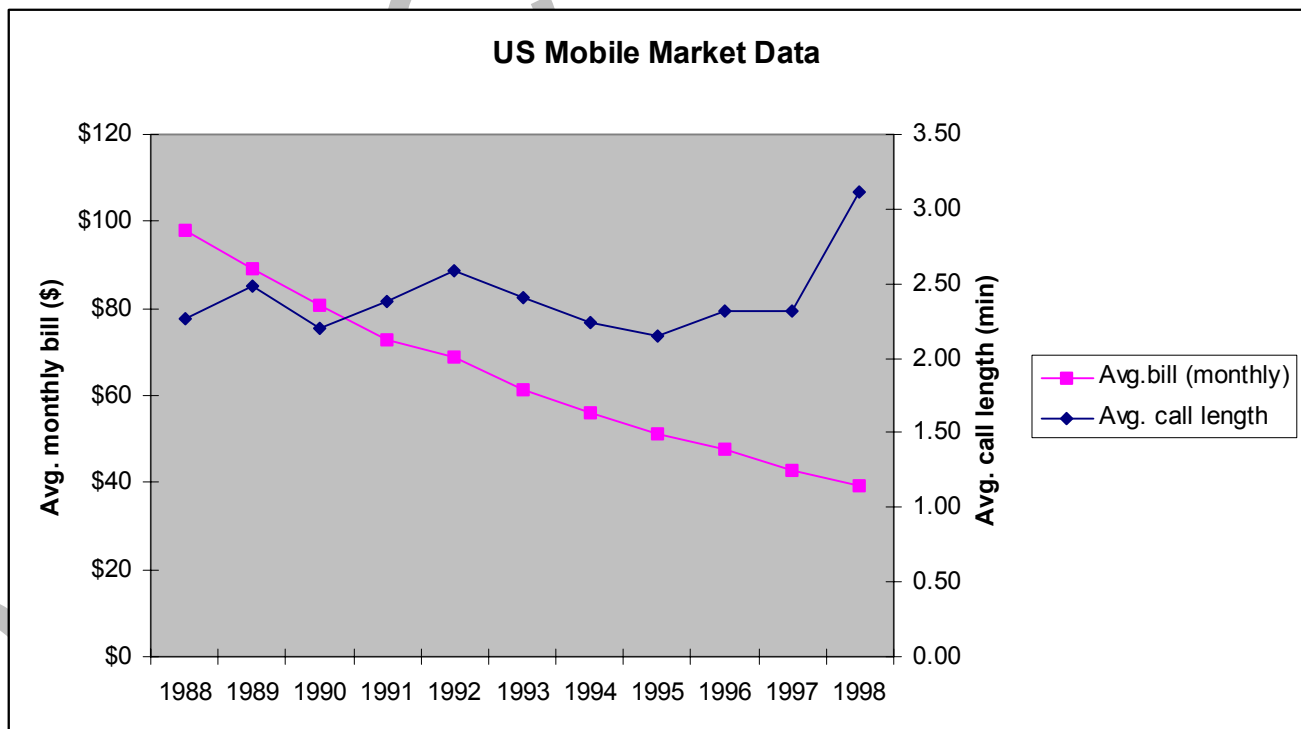
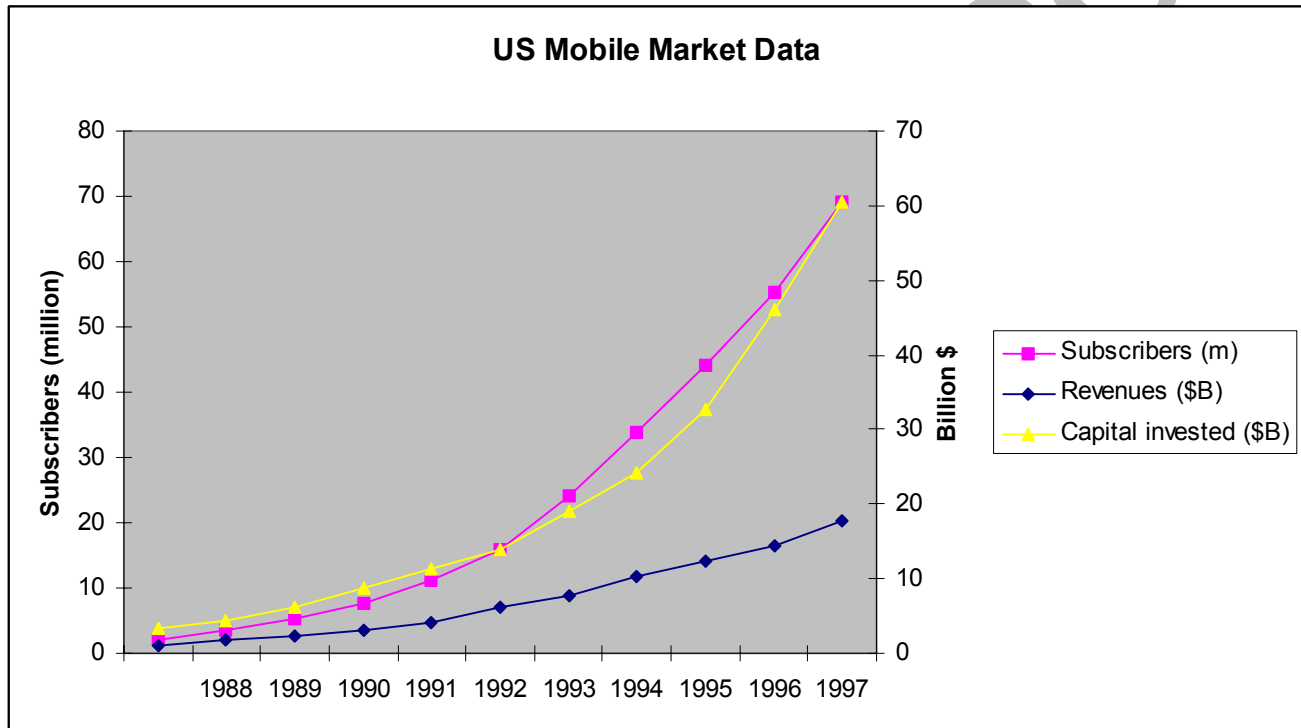
Sample Tariffs, March 1999

	BT (fixed)	Vodafone 20*	Vodafone 500*	Vodafone Prepaid
Connection	£116.33	£35	£35	£69.99
Line rental/month	8.92	17.50	100.00	6.25-7.50
Free calls (min)		20	500	£ 5.00
Peak call charge/minute	0.08	0.35	0.16	0.35
Off-peak call charge	0.04	0.05	0.05	0.05
Peak call to mobiles	0.30			
Off-peak call to mobiles	0.20			
Weekend call to mobiles	0.10			

* A large number of tariffs were available. All require a 12-month contract. Free minutes only to other Vodafone or national landline phones. International calls are typically at a 20% discount compared with BT.

Source: Company web pages

Exhibit 4 Benchmarks from US Mobile Market



Source: Mobile Communications 262, April 1999

Exhibit 5 Comparative Financial Performance

VODAFONE

INCOME STATEMENT

	3/1998	3/1997	3/1996
Turnover	2,470.8	1,749.0	1,402.2
- Cost of Sales	(1,264.8)	(916.5)	(722.4)
Gross Profit	1,206.0	832.5	679.8
- Distribution costs	(209.7)	(123.6)	(71.1)
- Administration	(369.5)	(213.6)	(159.7)
Operating profit	626.8	495.3	449.0
Op. Profit from associated companies	47.9	34.3	16.8
Disposal of assets	24.9	25.9	7.2
Net Interest income	(49.4)	(16.4)	2.1
Profit before tax	650.2	539.1	475.1
- Taxes	(203.2)	(171.9)	(164.6)
- Minority interest	(28.2)	(3.4)	(0.7)
Net profit	418.8	363.8	309.8

BALANCE SHEET

Fixed Assets*	1,911.5	1,926.6	1,422.1
Current assets	590.8	495.2	341.3
Total assets	2,502.3	2,421.8	1,763.4
Current liabilities	1,432.3	1,013.2	583.3
Long term liabilities	690.5	580.0	156.6
Minority interest	97.0	58.6	1.4
Equity*	282.5	770.0	1,022.1
Total liabilities + equity	2,502.3	2,421.8	1,763.4

CASH FLOWS

Cash from operations	886.4	627.9	621.3
Capital expenditure+investments	(509.6)	(626.0)	(455.4)
Acquisitions	(364.4)	(192.0)	2.5
Interest	(43.4)	7.5	8.6
Financing	292.9	487.4	51.5
Taxes and others	(273.9)	(281.1)	(237.3)

FINANCIAL BENCHMARKS:

Gross profit (%)	48.8%	47.6%	48.5%
Operating profit (%)	25.4%	28.3%	32.0%
Net profit (%)	16.9%	20.8%	22.1%
Op. ROA	25.0%	20.5%	25.5%
Sales/Total Assets	0.99	0.72	0.80
ROE*	148.2%	47.2%	30.3%

* Reflects writeoff of goodwill

Source: Vodafone annual reports

Exhibit 5 (continued)

ORANGE

INCOME STATEMENT

	1998	1997	1996
Turnover	1,212.7	913.7	619.0
- Cost of Sales	<u>(938.3)</u>	<u>(732.7)</u>	<u>(602.7)</u>
Gross Profit	274.4	181.0	16.3
- Distribution costs	(142.1)	(116.6)	(94.1)
- Administration	<u>(116.9)</u>	<u>(115.5)</u>	<u>(99.7)</u>
Operating profit	15.4	(51.1)	(177.5)
Extraordinary items	6.1		
Interest income	2.8	0.6	2.1
Interest expense	<u>(122.4)</u>	<u>(88.6)</u>	<u>(53.7)</u>
Profit before tax	(98.1)	(139.1)	(229.1)
- Taxes	-	-	-
Net profit	<u>(98.1)</u>	<u>(139.1)</u>	<u>(229.1)</u>

BALANCE SHEET

Fixed Assets	1,304.4	985.5	750.2
Current assets	444.5	177.9	150.6
Total assets	1,748.9	1,163.4	900.8
Current liabilities	435.4	578.8	395.0
Long term liabilities	1,671.4	845.3	627.2
Equity	(357.9)	(260.7)	(121.4)
Total liabilities + equity	1,748.9	1,163.4	900.8

CASH FLOWS

Cash from operations	330.0	202.0	50.8
Customer acquisition costs	(227.0)	(165.0)	
Capital expenditure+investments	(534.4)	(322.0)	(366.2)
Interest	(106.7)	(87.2)	(42.8)
Financing	569.7	366.8	317.7
Others		(5.4)	53.0

FINANCIAL BENCHMARKS:

Gross profit (%)	22.6%	19.8%	2.6%
Operating profit (%)	1.3%	-5.6%	-28.7%
Net profit (%)	-8.1%	-15.2%	-37.0%
Op. ROA	0.9%	-4.4%	-19.7%
Sales/Total Assets	0.69	0.79	0.69
ROE			

Source: Orange annual reports

Exhibit 6

Rules for UMTS Auction

Five licenses of unequal size and value are expected to be auctioned in late 1999 or early 2000. Three licenses comprise 2x10+5 MHz, one 2x15 MHz and one 2x15+5 MHz. The largest license is reserved for a new entrant.

Example of auction design (subject to change):

- In a pre-qualification stage, bidders will have to demonstrate technical competency and to make a deposit.
- The main auction is an ascending-price auction in which the price rises until only seven bidders remain. During this stage the licenses are undifferentiated.
- In the next series of rounds, bidders place simultaneous bids on particular licenses. A bidder may bid for only one license at a time, but is allowed to switch from bidding for one license to bidding for another. The amount of the highest bid and the identity of the bidder are made public.
- The bidding continues until no new bids are placed. The highest bid wins that license at the bid price.
- No unreserved license can be sold for less per MHz than the reserved license. This ensures that the expected high demand for the reserved license does not bid up the price unreasonably high.

A bid of £400 to £500 million was expected to secure a license.

Exhibit 7
The Virgin Group – Examples of Product Portfolio

Company	Business	Revenues (growth)	Pretax profit (growth)
Virgin Travel Group	Virgin Atlantic Airways, Virgin Holidays, Virgin Aviation Services	\$1.6 billion + 20 %	\$151 million + 38 %
Virgin Entertainment Group	Cinemas, Megastores in Europe, US and Japan	\$1.3 billion + 10 %	\$ 81 million +23 %
Virgin Retail Group	Our Price, UK Megastores,		
Virgin Rail Group	Railway services	\$671 million + 2 %	\$ 22.9 million
Virgin Trading Group	Virgin Cola, Virgin Vodka, Virgin Limobikes		
V Entertainment Group	Virgin Digital Studios, Virgin Publishing, Rapido TV		
Ginger Media Group	Virgin Radio		
Virgin Hotels Group	Hotels		
Virgin Direct Limited	Personal financial services		
Victory Corporation	Cosmetics, clothing		
V2 Records	Music		
Virgin Net	Internet services		
Virgin Bride	Bridal services		
Virgin Airships and Balloons			
Storm Model Management			

Sources: From the company document "The Virgin Group of Companies" and Flynn, Julia, et. al. "Then Came Branson." Business Week. October 26, 1998: 26-29.

Exhibit 8 Virgin Framework for Evaluating New Ventures

1. Market attractiveness

- What is the market size and expected growth?
- What is the potential for restructuring the market and creating competitive advantage?
- What are the existing or potential barriers to entry?
- What are the competitors doing?
- Is the consumer confused or badly served?

When we said we were going into the personal financial services market, a lot of people said, "Whatever for? It's a dreary, discredited business." And we said, "Yeah, that's why."

Rowan Gormley, Managing Director, Virgin Direct

2. Does the opportunity help to build the Virgin brand?

Virgin is about surprising and delighting people. We have to be radical. "Me-too" ventures, no matter how potentially lucrative, are turned down without regret.

If we launch a new product, people know that we will come up with something a bit different. They also assume that we will give them better quality and value than the establishment. The value of the name is enormous, but so is the responsibility it confers. We get asked to put the Virgin name to many things, but we say "no" to most of them.

Richard Branson

3. Is there a clear opportunity to add value?

- Is there opportunity to work with other Virgin businesses?
- Are there problems which Virgin management skills can resolve?

MGM had cinemas in prime sites, but we didn't think they were making the most of them. When Virgin bought them, we were able to draw on our experience in many other businesses to help identify what was lacking and to decide how to provide added value. We changed everything, ensuring that, with Virgin, a "night out at the cinema" would mean something completely fresh and new.

Simon Burke, Chief Executive, Virgin Entertainment Group

4. Is there an appropriate trade-off between risk and reward?

Contrary to popular belief, Virgin has never wildly speculated on any new venture and never will. Our exposure in terms of money and time, is always balanced by the potential reward, and the focus is on building businesses that can generate their own organic growth.

Source: From the company document "The Virgin Group of Companies."