

THE FERRARI RENAISSANCE (A)

Professor Daniel Denison and James Henderson prepared this case as a basis for class discussion rather than to illustrate either effective or ineffective handling of a business situation.

My favorite Ferrari? The next one!

Enzo Ferrari

The end of the season celebration at Ferrari is always a special occasion. But in October 2002, it was exceptional. Ferrari had just clinched its fourth straight Constructors' Championship. Michael Schumacher had taken his third World Championship in a row and his fifth overall, matching the record held by Juan Manuel Fangio since 1958. But in addition, Ferrari had achieved a level of dominance never before seen in Formula One (F1). The team had capped off their decade-long resurgence by winning 15 of the 17 races and scoring more championship points than all the other teams combined (*refer to Exhibit 1*).

Luca di Montezemolo, Ferrari's chairman, first tasted success in F1 as team manager during Ferrari's "golden years" in the 1970s. He had returned to Ferrari as president in 1991 to revive Ferrari's struggling F1 team and to turnaround the troubled sports car business. He had succeeded. Di Montezemolo joked that he wouldn't ask the team to do better in 2003, but that he would settle for a "same again" performance.

The vitality created by the renaissance of the racing team also carried over to the Ferrari sports car operation. Ferrari had revamped their product line, downsized the workforce, introduced flexible manufacturing techniques and invested heavily in R&D. As in the race team, this required widespread change, bringing many new people to both operations. In di Montezemolo's words, "new Ferrari, new Ferraristas!"

How had Ferrari managed such a dramatic revitalization? More importantly, how could it sustain the dominance that it had created over the past decade and keep the organization hungry for more success? As di Montezemolo said: "When you have won everything, you only risk losing." He also recalled the words of Enzo Ferrari, the founder, whose picture hung on the wall behind his desk, "Everywhere, particularly in Italy, everybody will forgive you everything except success."¹

Formula One

The Formula One World Championship was formed in 1951 with private sportsmen and manufacturers running country colors with no commercial sponsorship. Today, F1 is the world's leading motorsports series, and is the world's second or third most popular sport, attracting over 54 billion viewers during the 2001 season. Ten teams, with two cars each, contest the 17-race series with team budgets ranging from US\$50 million to over \$400 million. Two titles are at stake, the Drivers' Championship and the Constructors' Championship (refer to ***Exhibits 2 to 4***).

The series is governed by a set of complex technical and sporting regulations produced annually by the FIA (Fédération Internationale de l'Automobile)² for single-seat open-wheel racing cars. The regulations specify precise aerodynamic dimensions, restrict the engine capacity to 3.0 liters, and specify a minimum weight of 600 kg, including the weight of the driver and his race equipment. Grand Prix cars are on the cutting edge of technology and can accelerate from 0 to 160 km/h and then stop in under four seconds.³

Contemporary F1 is a complex technology race. Millions are spent each year on aerodynamics alone, with each of the major teams running its own wind tunnels around the clock. In 2002 the major teams used as many as 150-200 engines, with special qualifying engines designed to operate for as little as 100 km, in order to gain a small advantage for a few qualifying laps. Satellite uplinks are used to send the data from anywhere in the world back to the factory so that set up changes can be simulated on the wind tunnel and sent back to the team before the next session. A team's ability to manage technology development is essential to its success.

The Formula One World Championship has been popular since the beginning, but it was not until the 1980s when Bernie Ecclestone founded the Formula One Constructors Association (FOCA) to represent the teams that F1 really took off. As president of FOCA, Ecclestone organized the teams and the series, negotiated the television rights, and created major new opportunities for sponsors to enter the sport. Today F1 is a significant business in its own right. Annual revenues are nearly \$3 billion, including team income from sponsorship (around \$1.6 billion across the 10 teams) and other sources such as gate receipts, hospitality, advertising and TV rights.⁴

The Ferrari Tradition

Ferrari is the only team to have competed in every Grand Prix since the F1 series began in 1951. As Ecclestone put it, "Ferrari is [...] the representation of everything motor racing stands for--speed, glamour, style and excitement."⁵ Ferrari began producing racecars and road cars in the 1940s, scoring their first major victory at the Mille Miglia in 1948. In the 1950s Ferrari was a force to be reckoned with, winning the Constructors' Championships in 1952, 1953 and 1956 with drivers such as Alberto Ascari and Fangio. Ferrari also took championships in 1961 and 1964. But after these triumphs, it would take another 11 years for Ferrari to regain their form on the racetrack.

Enzo Ferrari's philosophy was to design road cars based on racing technology and then sell road cars to help finance the race team. But in 1968, Ferrari agreed to sell the production car business to Fiat for \$11 million in order to provide additional financing to the team. Ferrari himself retained control of the racing team and used the money to revive the team. In 1974 26-year-old di Montezemolo found himself at Enzo Ferrari's side as head of the racing department. This combination led to Ferrari's "Golden Years," winning Drivers' and Constructors' titles with Niki Lauda in 1975 and 1977 and with Jody Scheckter in 1979. But this was followed by a disastrous 1980 season, in which the team finished tenth in the Constructors' Championship with only eight points for the season. The 1980s were marred by political infighting at Ferrari, which seriously limited the team's success. This came to a head in 1988 when Enzo ousted his son Piero Ferrari from his management position and gave the management of the racing team to a Fiat man, Pier Giorgio Capelli. Fiat ownership soon increased to 90%. Enzo Ferrari died later that year.

Building the Team

In November 1991 di Montezemolo returned to Ferrari as president. He had gained valuable experience since leaving Ferrari in 1979, serving as head of the organizing committee for the World Cup in Italy in 1990, head of Cinzano International SpA, organizer of Italy's first challenger in the America's Cup, and head of Itedi SpA, Fiat's enormous publishing empire. With his background at Fiat, his early association with Enzo Ferrari and his intricate knowledge of the passion and heritage surrounding the marque, he was the perfect choice. But it was a huge challenge. When Austrian driver Gerhard Berger arrived at Ferrari in 1993, he said, "Stand outside the Ferrari factory and you wonder why Ferrari doesn't win every race. Stand inside it and you wonder how they manage to win any."⁶

Di Montezemolo's strategy for revitalization was to get the best people he could into key positions. One of his first priorities was to rebuild the technological base in Maranello and create a global team. Since Ferrari was no longer on the cutting edge of F1 technology, he made a deal with leading F1 designer John Barnard to form Ferrari Design & Development in England, the center of the F1 industry. From 1992 to 1996 Ferrari's chassis were designed in the UK with a staff of about 50 people. Ferrari's goal was to develop its technology and then import that back to Italy. Osamu Goto, the Japanese engine guru who helped build Honda's F1 dominance in the 1980s, also joined the team.

In 1993 Ferrari signed Frenchman Jean Todt as team principal. As head of motorsport at Peugeot, Todt had won the World Rally Championship in 1992. When he arrived in July 1993, Ferrari had not won a Grand Prix since 1990, had not won an F1 Constructors' Championship since 1983 and had not won the F1 Drivers' Championship since 1979. Ferrari was a large and chaotic environment, driven by internal politics and the pressure to win. The legacy of Enzo Ferrari's autocratic style remained and the structure and operation of the team was still an extension of Enzo himself. Todt restructured everything, attracting top international talent and creating a global team. He instilled confidence and self-belief in the team personnel with his reserved, pragmatic, and focused style. He

brought everyone together around the table, asking for progress reports and delivery dates, and demanding explanations when things were not on track. After each race, the team analyzed all aspects of the race performance in their Monday debriefs, and planned future improvements.

In 1996 two-time World Champion Schumacher joined Ferrari after capturing the 1994 and 1995 titles at Benetton. Di Montezemolo commented:

I need a huge driver. I need his intelligence, I need him to push and improve the team, I need someone who will try to win not only one race, but the next and the next until we have restored the myth of Ferrari. To be the best, you have to have the best driver.⁷

Schumacher brought a Teutonic style and a steely determination to win. His calm, logical approach minimized the drama that had long characterized the Ferrari environment. In contrast to the past when team members and drivers aired their grievances in public, both Schumacher and Todt felt that problems should be resolved internally without public scapegoats. Both adulation and blame should be accepted as a team, rather than as individuals. Schumacher quickly won the support of the Ferrari mechanics and engineers through his hard work and dedication, spending a great deal of time testing at Maranello and developing the car. On race weekends, he is often the first driver to arrive in the mornings and the last to leave at night. When Schumacher signed a deal to keep him at Ferrari through the end of 1999, he said, “Winning and getting the championship back for Ferrari is my personal ambition. That’s it!”⁸

This was also a major change in Ferrari’s approach to drivers. In the early days, Enzo Ferrari was only interested in the Constructors’ Championship. He had little interest in the Drivers’ Championship. He reasoned that “his cars won races while drivers lost them.” Schumacher’s salary of \$25 million (with a company that was losing money only four years earlier) made it clear that Ferrari was not afraid of making the investments necessary to become a winning team. Added pressure was created when Fiat chairman Gianni Agnelli commented publicly, “If Ferrari do not win with Schumacher, it will be Ferrari’s fault.”⁹

By the beginning of 1997, Ross Brawn and Rory Byrne were recruited from rival team Benetton as technical director and chief designer. Schumacher won the first 19 races of his career and his first two championships with Brawn as technical director and Byrne designing the cars. Brawn’s arrival had an immediate positive impact on the team. His methodical style and calming influence helped to organize disparate technical groups into a cohesive and effective unit. Brawn was also regarded as a “pit wall genius”^{10 11} who developed incredible race strategies. Schumacher helped lure Byrne out of a comfortable retirement scuba diving in Thailand, reuniting the Schumacher/Brawn/Byrne team and bringing design, development and production back together under one roof. With this team in place, plus Paulo Martinelli in charge of the engine department, it was time to bring the technology developed by John Barnard’s FDD operation in the UK back to Maranello. In 1998 the Ferrari F1 car was entirely developed in Italy for the first time in six years (*refer to Exhibit 5*).

Scuderia Ferrari Marlboro

Throughout its history, Ferrari had proudly remained one of the least commercial F1 teams, accepting only “technical” sponsors, such as Shell or Magneti Marelli, who contributed technology rather than commercial sponsorship. Ferrari never advertised their sports cars, instead relying on racing to promote the Ferrari heritage and the Ferrari brand. Until 1995, funding for the F1 team was underwritten by Fiat Chairman Gianni Agnelli, who fully supported di Montezemolo’s determination to regain the world championship for Ferrari.

But by 1995, it was clear that the transformation would require a huge increase in external funding to pay for drivers, team personnel and new technology. In 1996 in cooperation with Philip Morris International, Scuderia Ferrari Marlboro was formed, creating a new commercial direction for the team. Shell, who partnered with the team in the 1970s, also rejoined Ferrari after a 20-year separation.

A key condition for creating the Scuderia “team” was to reunite Schumacher, Brawn and Byrne. Irishman Eddie Irvine, who reflected the rebellious, uninhibited behavior PMI associated with the Marlboro brand was signed as number 2 driver. “Ferrari red” was changed from the traditional blood red to a brighter red that appeared better on television and fit more closely with the sponsor’s colors. The days of Ferrari being driven by the politics of the factory were over.

Commercial Strategy

Di Montezemolo’s determination to run the team as a business also led him to bring in bright young talent with commercial expertise to integrate the race team with the overall Ferrari business strategy. This influenced many factors including the way that the team managed sponsors, partners, and the media, and in the way that the race team was linked to the strategy of the sports car business.

Sponsors influence many non-technical decisions in F1 such as the color scheme, driver and team clothing, the design of the motorhome, support vehicles and pit backdrop. They can also influence driver choices to appeal to their image (e.g., Eddie Irvine) or to particular markets such as South America (e.g., Rubens Barrichello). Consumer brands such as Marlboro or Vodafone benefit from TV exposure, while other corporate sponsors are looking for B2B opportunities with other guests in the paddock. Looking after the sponsors’ VIP guests at races, test days and promotional events also requires careful orchestration. For example, on race weekends, drivers’ days are split into 15-minute intervals that must move like clockwork in order to keep everyone happy. Starting from a history of *no* commercial sponsorship, Ferrari has built one of F1’s top sponsorship units, charged with acquiring and retaining sponsors, managing sponsor involvement in team decisions and making certain that sponsors get real value from their investment.

Another innovation was Marlboro’s creation of a media unit for the team. Ferrari was always popular with the media, but journalists often had to wait around the paddock in hopes of interviewing one of the drivers or team leaders. Once the media unit was created, journalists could depend on a press release each morning,

a lunch for the media at noon, an interview with the drivers at 15:00 and a good espresso all day long in the atmosphere of an Italian bar. Results alone were no longer enough. The Ferrari mystique required that the results be packaged with an exclusive Italian spirit in an international atmosphere.

The F1 team also served as the dynamic core of Ferrari, designed to help revitalize the road car business. Since the early 1990s when Ferrari was struggling to break even, production technology, design philosophy and manufacturing processes were all changed in order to enhance Ferrari's position in the luxury sports car market. These changes resulted in dramatic increases in sales and profitability (refer to *Exhibit 6*).

Part of this strategy was to bring some of the technology of F1 into Ferrari's road cars. "We made a big effort to show the innovative technology we put in our cars: We were the first to introduce an F1 gearbox in a commercial car; the first to apply the aerodynamic approach used in F1; the first to build an all-carbon fiber composite car like in F1."¹² By 2002, there was a two-year waiting list to buy Ferrari road cars. When the new half-million dollar Ferrari Enzo was introduced, the entire production of 399 cars was sold out before production began.

Gestione Sportiva

All of these changes have been reflected by a rapid transformation of the Gestione Sportiva (racing factory). To build a base for Ferrari's resurgence, the team moved 90% of the content of the F1 cars in-house, giving them a key advantage over other teams in terms of speed and control. This not only meant building the best composite shop, the best design shop, the best mechanical shop, the best structural analysis department, the best production department and, above all, the best wind tunnel and aerodynamics shop, but it also meant achieving the greatest possible integration among all of these key parts. Investment alone is not enough to ensure success. Performance is the result of an elusive factor called "the package"--how all the characteristics of the car fit together on the track.

New technology is dominant throughout the Gestione Sportiva. The centerpiece is a \$25 million wind tunnel for testing full-scale models. Until 1997 Ferrari only had access to a wind tunnel for small-scale models. Since aerodynamic improvements are perhaps the most important part of achieving competitive advantage in F1, establishing the design operation in Maranello under the same roof as the wind tunnel dramatically improved the efficiency of the team.

The race shop, where cars are stripped and reassembled between races, is spotlessly clean, well lit and divided into five bays. In each bay a stripped-down car sits on trestles, mechanics buzzing around in shabby blue lab coats. But down a short corridor lies one of Ferrari's most important secrets. Whereas most F1 teams have engines and chassis designed and built in separate locations, Ferrari's engines are built no more than 10 meters away from the chassis shop. It is a huge advantage to make both the engine and chassis on same site so that the two sides can communicate well and give each other exactly what they want. Other F1 teams are now starting to follow this same pattern.

The engine department itself has eight test chambers, small sound-proofed rooms where engineers can test-drive the engines, simulating the 80 laps of a Grand Prix lasting 90 minutes and pushing the motors to breaking point. Two of the test rigs are “dynamic,” in that they also simulate the “g” forces and the movement of the car on the track. Despite all of these innovations, it still takes a lot of discipline and organization to get several hundred employees on the chassis side and the engine side to work together on the same wavelength.

A huge satellite dish on top of the building receives real time data from the cars on track anywhere in the world. Every department has plasma TV screens to analyze data transmitted from the circuit and communicate with the engineers at the race. During 2001 Ferrari added almost four new software engineers each week, and total number of personnel grew from 600 to 750 in 2002. The logistics building houses the teams trucks and is similar in size to some F1 teams’ entire factory. Each team takes over 50 people and 4 trucks to European events. For the overseas races, three chartered Boeing 747s transport 20-25,000 kg of equipment comprising 80-90 packing cases and three cars for each team. Adjacent to the factory is the Fiorano test track. Ferrari is the only F1 team with its own test track.

In the middle of the track stands the 19th century villa that was once Enzo Ferrari’s office. It has been preserved exactly as it was when he died in 1988. On the top floor there is a room full of photographs--the smiling, oil-covered faces of long-dead champions--and memorabilia from Ferrari’s 70 years of grand prix racing. It has since been converted into an apartment for Schumacher when he comes to Maranello for testing or meetings.

The Road to Victory

With all of the pieces coming into place, the road to victory still proved difficult. The 1994 and 1995 seasons produced one victory each for veteran drivers Gerhard Berger and Jean Alesi and a big increase in championship points. But the real pressure began in 1996 when Schumacher joined the team.

The season began with a late launch and no chance to test the car before the opening race in Australia. With Schumacher earning almost \$1 million per race, reliability problems created huge pressure on the team. When Schumacher’s engine blew up on the formation lap at the French Grand Prix, di Montezemolo announced he was “bitterly disappointed”¹³ and Todt offered his resignation. Nonetheless, 1996 gave many signs that Ferrari was regaining its form. Schumacher scored his maiden victory for Ferrari in the rain at Barcelona, scored his first pole position at Imola and ended the season with three victories, third place in the Drivers’ Championship and second place in the Constructors’ Championship.

In 1997 they launched the car early, allowing for extensive testing before the season began. But they were still cautious. Schumacher commented, “I expected some problems in the first year, but I will not be happy if they are repeated in the second year. We are looking for reliability and a big improvement on last year, but the real championship for us should come in 1998.”¹⁴ The Monaco Grand Prix was a turning point in 1997 as Schumacher’s victory and Irvine’s third place

pushed them to the top of the race for the constructors' title for the first time since 1983. Ferrari ended the season with six wins, with Schumacher narrowly losing the fight for the Drivers' Championship to Jacques Villeneuve in the final race of the season. The team's early victories had come on the strength of Schumacher's driving, but now victories were coming on the strength of the team.

At the launch of the new car in 1998, Todt boldly stated, "This year we have no excuses."¹⁵ But rival McLaren's strength quickly became apparent when it finished first and second in Melbourne in the first race of the season. As the season progressed, McLaren seemed to have the best car, but Ferrari had the best driver, the best tires and superior reliability. Schumacher drew even with McLaren driver Mika Hakkinen 14 races into the 16-race season, but Ferrari still finished the season second in both the Drivers' and the Constructors' Championship.

In 1999, after establishing a dominant lead in the first half of the season, a brake failure at Silverstone put Schumacher into a tire wall at 160 km/h, breaking his right leg, and putting him out of action for six races. Ferrari's hopes for the championship seemed to be out of the window. But number 2 driver Eddie Irvine scored several victories, and Schumacher returned for the last three races to challenge Hakkinen for the title. The strong and reliable performance of the team and the car won the Constructors' Championship despite Schumacher's injury.

By the beginning of 2000, Ferrari had spent several hundred million dollars in four seasons and over \$125 million on Schumacher himself. Di Montezemolo and Todt were under huge pressure to take the Drivers' crown. The duel with McLaren's Hakkinen came down to the last race of the season at Suzuka in Japan. Schumacher was eight points ahead in the Drivers standings and only needed a first or second place to win. On October 8, 2000 Schumacher took the checkered flag to secure the World Drivers' Championship for Ferrari the first time in 21 years.

Dominance

In February 2001 Ferrari announced that they had extended the contracts of the key members of the team, Todt, Brawn, Byrne and Martinelli, until the end of 2004, when Schumacher's contract also expired. This set the stage for a dominant season in which Ferrari once again won both the Drivers' and the Constructors' Championships. Despite challenges from both McLaren and Williams, Schumacher won 9 of 17 races and finished second in 5 more, finishing the season with more than twice as many points as his nearest rival, McLaren's David Coulthard.

Ferrari achieved even greater dominance in 2002. Todt scored a major coup when he convinced Bridgestone to build tires specifically for Ferrari, while its rival, Michelin, built tires that were more suitable for several teams. Schumacher secured his fifth championship title by round 11 in France, with 11 wins, 5 seconds and a third. Number 2 driver Rubens Barrichello won four races and finished second in the championship. Ferrari won 15 out of 17 races, nine first and second place finishes and scored more points than the rest of the teams put

together. By the end of 2002 Schumacher had driven 22 straight races without a reliability problem in the car.

But Ferrari's dominance in 2002 had a major impact on the popularity of F1, particularly at the end of the season when Ferrari scored five first and second place finishes in succession. This was followed by a dramatic loss of TV viewers. In addition, controversy erupted following two races, first in Austria in which Ferrari gave team orders to Barrichello to let Schumacher win and second, in Indianapolis, when Schumacher and Barrichello tried to stage a "photo finish," unintentionally allowing number 2 driver Barrichello to win. Ferrari's dominance was becoming all too predictable. Even the "tifosi," Ferrari's fanatical fans, became critical of the team.

Building for the Future

Despite their unprecedented success, many new challenges faced Ferrari. New rules regarding qualifying and the points system were introduced to try to even out the competition and make the races less predictable. Ferrari's slow start to the 2003 season showed that even Schumacher could make mistakes. A close fight soon emerged with resurgent competitors such as McLaren-Mercedes, BMW-Williams and Renault, despite the successful introduction of the new car, the Ferrari 2003-GA, named for the former Fiat Chairman, Gianni Agnelli, after his death in early 2003. Maintaining the team's dominance was a major challenge. Contracts had been renewed for the top management team and for Schumacher, but not for the section heads the next level down.

Other issues outside of the racing team also posed significant concerns for di Montezemolo. Fiat had sold 34% of Ferrari to Mediobanca and Ferrari was considering becoming a publicly traded company. A merger between Fiat and American giant General Motors was actively being discussed.¹⁶ Tobacco sponsorship of F1, the major source of Ferrari's revenue faced a likely ban in 2007. Automakers such as Mercedes, BMW, Renault, Fiat and Ford, who had traditionally been involved with F1 as sponsors and suppliers, were now actively considering forming a breakaway series. As F1's most visible team, Ferrari was centrally involved in all of these issues.

Ferrari's continued investment in the racing factory and the road car factory followed a new philosophy called Formula "Uomo" (Man). The principle was to put the people at the center and to build the factory around them in order to create a working environment that would support the creativity and quality of life of the Ferraristas. The trees on the shop floor of Ferrari's state-of-the-art engine factory were the most visible symbol of this dramatic change.

Di Montezemolo had led the Ferrari Renaissance for a decade and had achieved an unprecedented level of success. He had seriously considered quitting Ferrari in 2001, when Silvio Berlusconi offered him a cabinet post as industry minister. But the 54-year-old's doubts about staying on at Ferrari were short lived. It did not take much for Giovanni Agnelli, the Fiat family patriarch with whom di Montezemolo was always in close touch, to persuade him to continue. But what convinced him even more was the letter he received from 400 of his 2,000

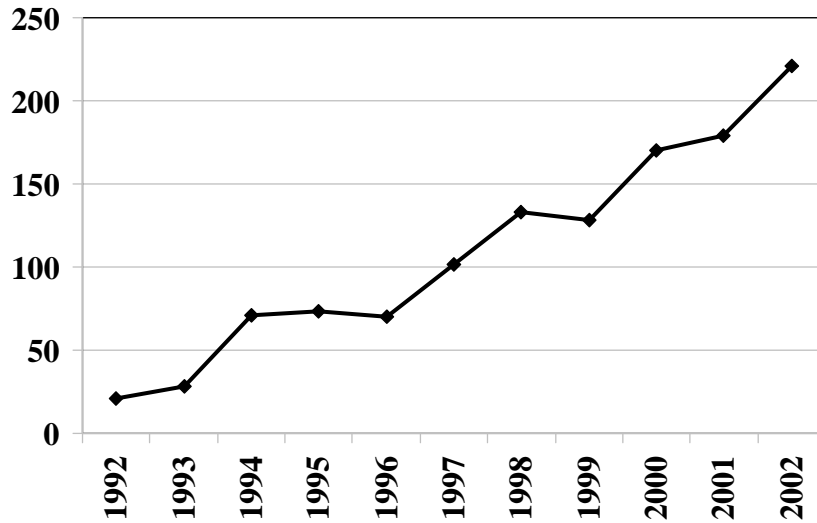
employees the day after Berlusconi announced he was offering him a cabinet post as industry minister. They urged him not to leave Ferrari. “It was the best day in my career,” he recalls.¹⁷

But still di Montezemolo remains cautious. “Success is difficult to manage because you learn more from failure than success. You also have to remain humble because there is always a danger that a problem is lurking around the corner.”¹⁸

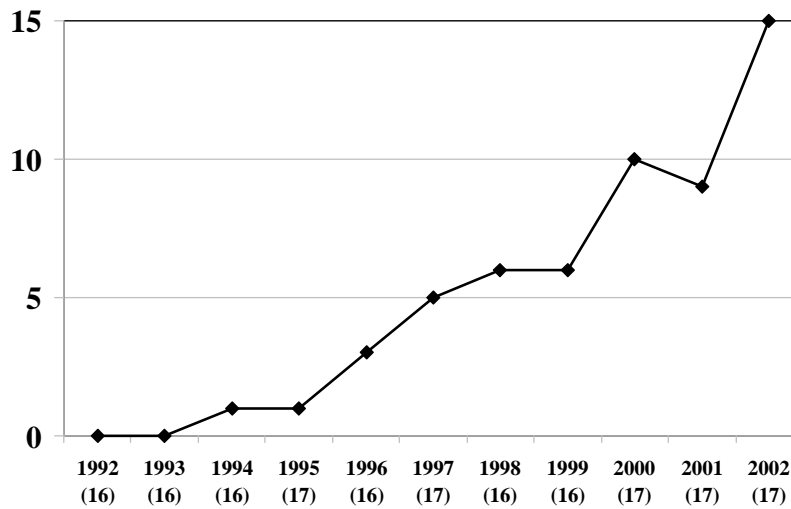
The real secret of success is enthusiasm. Enthusiasm is the yeast that makes your hopes rise to the stars. Enthusiasm is the sparkle in your eye, it is the swing in your gait, the grip of your hand. Enthusiasm is at the bottom of all progress. With it there is accomplishment. Without it there are only alibis.¹⁹

**Exhibit 1
World Championship Results (1982–2002)**

Points per Season



Race Wins per Season



(Numbers in brackets denote total number of races per season.)

*Points are awarded to the first six finishers. The winner receives 10 points and the next five finishers are awarded 6, 4, 3, 2, and 1.

Source: FIA (Fédération Internationale de l'Automobile), 2002

**Exhibit 2
2002 Race Schedule**

Grand Prix	Date	Winning Driver	Team
Australia	March 3	M. Schumacher	Ferrari
Malaysia	March 17	R. Schumacher	Williams-BMW
Brazil	March 31	M. Schumacher	Ferrari
San Marino	April 14	M. Schumacher	Ferrari
Spain	April 28	M. Schumacher	Ferrari
Austria	May 12	M. Schumacher	Ferrari
Monaco	May 26	D. Coulthard	McLaren-Mercedes
Canada	June 9	M. Schumacher	Ferrari
Europe	June 23	R. Barrichello	Ferrari
Great Britain	July 7	M. Schumacher	Ferrari
France	July 21	M. Schumacher	Ferrari
Germany	July 28	M. Schumacher	Ferrari
Hungary	August 18	R. Barrichello	Ferrari
Belgium	September 1	M. Schumacher	Ferrari
Italy	September 15	R. Barrichello	Ferrari
United States	September 29	R. Barrichello	Ferrari
Japan	October 13	M. Schumacher	Ferrari

Source: FIA (Fédération Internationale de l'Automobile), 2002

**Exhibit 3
Formula One Team Employees**

Team	Main Team	Engine	Total
McLaren Mercedes	650 (Woking, UK)	300 (Northampton, UK)	950
Ferrari	800 (Maranello, Italy)	-	800
Renault	420 (Enstone, UK)	260 (Viry-Chatillon, France)	680
BMW Williams	450 (Grove, UK)	220 (Munich, Germany)	670
BAR Honda	360 (Brackley, UK)	265 (Bracknell, UK, Tokyo, Japan)	625
Jaguar Racing	308 (Milton K, UK)	180 (Northampton, UK)	608
Toyota	550 (Cologne, Germany)	-	550
Sauber Petronas	280 (Hinwil, Switzerland)	180 (Maranello, Italy)	460
Jordan Ford	200 (Silverstone, UK)	80 (Northampton, UK)	280
Minardi Cosworth	150 (Ledbury, UK)	40 (Northampton, UK)	190

Source: Eurobusiness, Business F1, 2003

Exhibit 4
2003 Formula One Team Budgets (\$ million)

Team	Cash	Non-Cash	Other Support	Total	% of Ferrari Budget
Ferrari	224.80	36.45	41.50	295.75	100.0
McLaren Mercedes	146.05	126.10	17.00	289.15	97.8
Toyota	208.70	78.20	Nil	286.90	97.0
Renault	139.00	103.72	14.50	257.25	86.9
BMW Williams	108.50	103.15	18.00	229.65	77.7
BAR Honda	89.30	119.50	13.50	222.30	75.2
Jaguar Racing	97.75	98.70	13.50	209.95	71.0
Sauber-Petronas	66.65	33.23	14.75	114.63	38.8
Jordan Ford	24.00	10.35	25.50	59.85	20.2

Source: Eurobusiness, Business F1, 2003

Exhibit 5
Scuderia Ferrari Marlboro
Leadership Team

President:	Luca di Montezemolo
Sporting Director:	Jean Todt
Technical Director:	Ross Brawn
Chief Designer:	Rory Byrne
Engine Director:	Paolo Martinelli
Head of Racing Activities:	Stefano Domenicali
Race Technical Manager:	Nigel Stepney
Engine Design & Development:	Gilles Simon
Director:	Piero Ferrari
Head of Communications:	Luca Colajanni

Source: Ferrari SpA, 2003

**Exhibit 6
Ferrari Sales and Operating Performance**

	1998	1999	2000	2001	2002
Sales*	616	757	893	1,058	1,208
Operating profits*	11.4	23.5	45.6	62.0	70.5
Ferrari production	3,489	3,775	4,072	4,289	4,236
Maserati production	666	1,538	2,027	1,869	3,300
Total production	4,155	5,313	6,069	6,158	7,536

* \$million

Source: Ferrari SpA, 2003

Notes

¹ Betts, Paul. "National Hero Bearing the Burden of Success." *Financial Times*, 11 April 2002.

² The world governing body for motorsport, based in Paris.

³ FIA technical regulations (see www.fia.com).

⁴ *F1 Business Magazine*, April 2002.

⁵ Nottage, Jane. *Ferrari: The Passion and the Pain*. UK: Collins Willow, 1998.

⁶ "Pole Position." *Financial Times*, 21 December 2002.

⁷ "Ferrari's Destiny in the Safest of Hands." *The Times*, 11 July 1997.

⁸ Ibid.

⁹ "Wheels of Fortune." *Wall Street Journal Europe*, 18 October 1995.

¹⁰ "No More Mistakes Says Ferrari Chief." Reuters, 27 September 1999.

¹¹ "Brawn the Secret of Schumacher's Success." *Financial Times*, 9 October 2000.

¹² Betts, Paul. "National Hero Bearing the Burden of Success." *Financial Times*, 11 April 2002.

¹³ "Ferrari Chief Offers to Resign." *Guardian*, 2 July 1996.

¹⁴ "Ferrari Launch F310." *Autosport*, January 1997.

¹⁵ "Todt Stakes All on New Ferrari." *Autosport*, 8 January 1998.

¹⁶ "I would like to clarify what I think has become something of a legend about Fiat and Ferrari and the 'unbelievable' Ferrari budget. Fiat is our shareholder. We are owned 90 percent as a financial investment by Fiat Holding Company. We are not owned by the Fiat Automotive sector. Fiat owns insurance companies, the Turin daily newspaper, La Stampa, Fiat owns Ferrari. We have nothing to do with the General Motors issue because, again, we are not part of Fiat Auto. We are, thank God, totally independent in terms of cash flow. In F1, Philip Morris, Vodafone, Shell and many others--but mainly these three--can give us the possibility to be competitive."

Henry, Alan. "Life is Beautiful: Luca di Montezemolo Interview." *Autoweek* [Detroit], 8 January, 2003.

¹⁷ "Ferrari Workers Ask Montezemolo to stay." *Associated Press*, 15 May 2001.

¹⁸ Betts, Paul. "National Hero Bearing the Burden of Success." *Financial Times*, 11 April 2002.

¹⁹ Welcome note to new employees, Ferrari SpA.